

BASELINE NONGAME WILDLIFE SURVEYS ON THE FORT PECK INDIAN RESERVATION

Prepared for:

Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation

Office of Environmental Protection

P.O. Box 1027

Poplar, MT 59255

Tribal Government Resolution:

#26-571-2012-03

Prepared by:

Paul Hendricks, Susan Lenard, David Stagliano and Bryce A. Maxell

Montana Natural Heritage Program

A cooperative program of the Montana State Library and the University of Montana

March 2013

© 2013 Montana Natural Heritage Program

P.O. Box 201800, 1515 East Sixth Avenue, Helena, MT 59620-1800, 406-444-5354

This document should be cited as follows: Hendricks, P., S. Lenard, D. Stagliano, and B. A. Maxell. 2013. Baseline nongame wildlife surveys on the Fort Peck Indian Reservation. Report to the Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation. Montana Natural Heritage Program, Helena, MT. 83 pages.

EXECUTIVE SUMMARY

A variety of animal surveys were conducted during summer (May- September) 2012 as a baseline assessment of nongame wildlife on tribal lands on the Fort Peck Indian Reservation in northeastern Montana, the focus being all vertebrate groups (fish, amphibians, reptiles, birds, small mammals) and some aquatic invertebrate taxa (e.g. Mussels, Dragonflies) using relatively native habitats. Results of the surveys are intended to help guide stewardship and management of tribal lands as needs arise, whether they are in response to energy exploration and development, conflicts in land use practices, threats from invasive or non-native species, or other land management concerns.

Of 72 total stream sites visited, fish were documented at 36 of 55 sites with water. Twelve of 17 fish species detected were native, with highest occurrence rates by Fathead Minnow (60%) and Brook Stickleback (58%); the non-native Northern Pike was present at 52% of sites. Fish species richness averaged 3.1 (2.2 native species) across all sites, and reached its greatest value (eight species) at one site on the Poplar River. Two Montana Species of Concern (SOC) fish, Northern Redbelly Dace and Iowa Darter, were recorded at five and three sites, respectively. Pearl Dace, another SOC fish collected previously from the Fort Peck Indian Reservation, was not detected at any of the historical sites. Fifteen of 36 sites scored in the unimpaired range for biological integrity of fish communities, nine scored moderately impaired and the remainder as slightly impaired. However, taxonomic completeness qualified as unimpaired at only 25% of sites, indicating the majority of sites were adversely affected by introduced fish species.

Overall, 180 unique macroinvertebrate taxa were reported from assessment surveys or incidentally at ~50 sites visited. Two SOC mayflies (*Caenis youngi* and *Anaetris eximia*) and one SOC dragonfly (*Stylurus intricatus*) were collected at two sites each. Five potential SOC Odonata species were collected across the study area. Highest species richness among invertebrate groups was, in order of dominance: Diptera (36 taxa), Odonata (31), Coleoptera (28), Mayflies and Mollusks each with 21 taxa. The most ubiquitous damselflies were the Northern Bluet and Eastern Forktail reported at 28 and 25 sites, respectively. The Physa snails (*Physella acuta* and *P. gyrina*) were the most abundant and widespread mollusk species, detected at 30 sites with over 1100 individuals. Despite structured mussel searches at 25 sites and surveying an additional 30 streams, we only documented the giant floater (*Pyganodon grandis*) at three sites in Smoke Creek and the Poplar River.

Five amphibian and two reptile species were detected during surveys at 57 wetland sites, with Boreal Chorus Frog and Northern Leopard Frog at 50.9% and 29.8% of sites, respectively. Plains Spadefoot, currently a state SOC, was detected at one site. Amphibians were three times more likely to be detected at sites where fish were not observed. Incidental observations of amphibians and reptiles during the course of other surveys resulted in 52 observations of three amphibian and five reptile species, including the state SOC Smooth Green Snake, and Common Gartersnake, the first verified in far northeastern Montana north of the Missouri River.

One hundred and ten bird species were recorded on the Fort Peck Indian Reservation during the 2012 surveys, including 16 SOC species. Seventy species were detected on 23 road transects (10 point counts each, 230 points total), and 22 species on 19 off-road points (no species differed from those detected on road transects). Horned Lark was the most abundant and widespread bird species detected within 100 m of count points (474 individuals on 79.1% of 249 points). Species detected within 100 m of points

included nine state SOC: Long-billed Curlew (2 points), Loggerhead Shrike (2 points), Sprague's Pipit (24 points), Chestnut-collared Longspur (119 points), McCown's Longspur (36 points), Brewer's Sparrow (4 points), Baird's Sparrow (57 points), Nelson's Sparrow (1 point), and Bobolink (12 points). Nests of two SOC species (Sprague's Pipit, Chestnut-collared Longspur) were documented incidental to other surveys. Sprague's Pipit is also a Candidate Species for Federal Listing under the Endangered Species Act. The suite of birds detected in 2012 includes most of those expected to breed regularly in native grasslands in this region, including seven SOC. Fifteen wetland sites received unstructured surveys, but resulted in detection of 52 species, many of which were encountered nowhere else during bird surveys. Twelve woody sites were surveyed for cuckoos using recorded call playback; no cuckoos were detected.

Fifty-seven captures of seven terrestrial small mammal species were made during 940 trap-nights of effort at 46 sites, a trapping success of 6.06%. Deer Mouse accounted for 87.7% of all captures (at 30 sites). One captured Pygmy Shrew represents only the third record for northeastern Montana (first record for Valley County); this species probably merits addition to the SOC list due to its rarity across the state, especially east of the Rocky Mountains. Incidental observations of terrestrial small mammals during the course of other surveys resulted in 36 observations of 12 additional species, none of which are SOC.

Eight species of bats were detected during acoustic surveys for single nights at 32 sites, with presence of five species (Big Brown Bat, Eastern Red Bat, Hoary Bat, Silver-haired Bat, Little Brown Myotis) based on calls classified definitive and three additional species (Townsend's Big-eared Bat, Western Small-footed Myotis, Western Long-eared Myotis) on calls classified probable. Three of these species are state SOC: Townsend's Big-eared Bat (probable: 2 sites), Eastern Red Bat (definitive: 6 sites, probable: 5 sites), and Hoary Bat (definitive: 13 sites, probable: 3 sites). The most widespread species was Silver-haired Bat, detected at 86.7% of 30 sites (definitive: 25 sites, probable: 1 site) where equipment did not malfunction. Two long-term acoustic monitoring stations included calls classified definitive for eight bat species, including the three based only on probable calls during the single night surveys, and also included a ninth species, Long-legged Myotis, with calls classified probable.

Although the Fort Peck Indian Reservation is confronted with a variety of land use issues and challenges, it continues to support a large variety of native species that should be considered in future management activities. The deleterious effect of converting native grassland to cropland may be reflected in different rates of point-count occupancy by some grassland bird species in different areas within the reservation boundary, as well as between the reservation as a whole and adjacent areas in the region where larger areas of intact native prairie remain. Responses by small terrestrial mammals and bats to land conversion are less clear and deserve more attention, but riparian corridors and open water are important landscape features for bats, some small mammal species, and various birds. Where they are present, non-native predatory fish tend to be detrimental to native pond-dwelling amphibians and some native stream fish. Future land stewardship and management decision-making for tribal lands will be better informed with additional surveys of all categories of nongame animals and habitats, as many gaps remain in survey coverage across the reservation.

ACKNOWLEDGMENTS

Several persons made this project possible. In particular, Jeanne Spaur (tribal wildlife biologist) promoted the survey idea with the tribal government and the Montana Natural Heritage Program (MTNHP), walked the proposal through the bureaucratic process, arranged for permission to access tribal lands, freely offered assistance with many aspects of the project, participated in some of the field work, and provided refuge from the mid-summer heat on more than one occasion. Chris Mart conducted most of the lentic amphibian and reptile surveys, Coburn Currier (MTNHP) aided with bird surveys and Phil Sawatzski assisted with the fish and aquatic macroinvertebrate surveys. Mike Borgreen (Medicine Lake NWR) provided field logistical support for the aquatics crew. Claudine Tobalske (MTNHP) created the land cover maps that helped those of us in the field orient and find our way around tribal lands on the reservation.

Table of Contents

Executive Summary	iii
Acknowledgments	v
Introduction	1
Study Area	1
Methods	2
Survey Sites	2
Survey Methods	3
Results and Discussion	6
Fish Communities	6
Aquatic Macroinvertebrates	10
Lentic Amphibians and Reptiles	12
Bird Surveys.....	14
Terrestrial Small Mammal Surveys	18
Bat Detector Acoustic Surveys	21
Opportunistic and Pre-2012 Observations	24
Some Conclusions and Suggestions	25
Literature Cited	26
Appendices	29
Appendix 1: Heritage Rank Definitions.....	30
Appendix 2: Checklist of Fish Species at Aquatic Survey Sites.....	33
Appendix 3: Aquatic Sites Survey Summary.....	36
Appendix 4: Macroinvertebrates Found During Aquatic Sites Surveys	41
Appendix 5: Lentic Amphibian and Reptile Survey Results	47
Appendix 6: Checklist of Birds Observed on the Fort Peck Indian Reservation	50
Appendix 7: Bird Road Transect Survey Results	52
Appendix 8: Off-road Bird Point Count Results.....	56
Appendix 9: Bird Nests Located Incidental to other Survey Work	58
Appendix 10: Counts of Bird Species at Wetland Sites.....	60
Appendix 11: Terrestrial Small Mammal Trapping Results	63
Appendix 12: Bat Detector Acoustic Survey Results	66
Appendix 13: Opportunistic Wildlife Observations during 2012	69

Appendix 14: Summary of Fish Observations from Fort Peck Indian Reservation pre-2012	75
Appendix 15: Records of Non-game Amphibians, Reptiles and Small Mammals Pre-2012	79

List of Tables

Table 1: Fish recorded during the 2012 Fort Peck Surveys	7
Table 2: Total Number of Total Native Fish Species Detected by Site	9
Table 3: Macroinvertebrate Species Detected during the 2012 Fort Peck Survey.....	12
Table 4: Amphibian and Reptile Species Detected during the 2012 Fort Peck Survey	12
Table 5: Bird Species Detected < 100 m of Count Points during the 2012 Fort Peck Survey.....	15
Table 6: Terrestrial Small Mammals Captured during the 2012 Fort Peck Survey	19
Table 7: Bats Detected during the 2012 Fort Peck Single-Night Acoustic Survey	22
Table 8: Monthly Bat Activity in 2012 at Two Long-term Acoustic Monitoring Stations.....	23

List of Figures

Figure 1: Sites for Aquatic Surveys in 2012	6
Figure 2: Percent of Native Fish at Various Sites during the 2012 Survey	8
Figure 3: Location of Lentic Sites Surveyed for Amphibians and Aquatic Reptiles in 2012.....	13
Figure 4: Location of Road Transects and Off-road Points for Bird Point Counts in 2012.....	14
Figure 5: Distribution of Sprague’s Pipit Across the Fort Peck Reservation.....	17
Figure 6: Location of Terrestrial Small Mammal Trap Lines on Fort Peck Reservation in 2012	19
Figure 7: Location of Bat Detector Surveys on Fort Peck Reservation in 2012.....	21

List of Photos

Photo 1: Typical Glaciated Prairie Stream Habitat	10
Photo 2: Typical Glaciated Large Valley River Habitat	11
Photo 3: Small Mammal Trap line in Riparian Habitat; White-footed Mouse	20
Photo 4: Small Mammal Trap line in Shrubby Draw; Western Harvest Mouse	20
Photo 5: Bat Detector Site #19 and #23	22
Photo 6: Bat Detector Site #18 and #6	23
Photo 7: Smooth Green Snake; Common Gartersnake	24

INTRODUCTION

Extreme northeastern Montana has received relatively little inventory for its non-game vertebrate occupants, with the notable exception of Medicine Lake National Wildlife Refuge in Sheridan County and the Waterfowl Production Areas associated with the refuge. Much of what is known about non-game wildlife in the region has been focused on birds, but now includes increased attention on amphibians, reptiles, and small mammals (e.g., Hossack et al. 2003, Perry et al. 2004, Carson et al. 2006, Dorak et al. 2012). Despite additional agency and NGO focus on northeastern Montana, gaps in documented distributions remain fairly numerous. Non-game vertebrate wildlife of the Fort Peck Indian Reservation continues to be under-surveyed, despite long-term and increasing impacts from agriculture and mineral exploration. Thus, there is an immediate need to gather baseline data from the reservation on a broad spectrum of non-game vertebrates. These data will help the Tribal Executive Board and Fort Peck General Council to better understand, protect, and preserve their wildlife resources in their on-going efforts to make informed management decisions as demands for land and mineral resources escalate.

The Montana Natural Heritage Program's (MTNHP) 2012 baseline non-game wildlife inventory focused on all vertebrate taxa (fish, amphibians, reptiles, birds, terrestrial small mammals, and bats), and included environmental assessment of streams and rivers, including collection of distributional data for sensitive invertebrates (focal groups: Odonata, Crayfish, Mussels, Mayflies) prior to new exploratory drilling for oil and gas reserves and before any anticipated impacts to the environment from these activities. Focus was on native landscapes under tribal jurisdiction, with emphasis on uplands for most non-aquatic taxa.

STUDY AREA

The Fort Peck Indian Reservation, shaped roughly like a trapezoid, is about 110 mi (180 km) E-W by 40 miles (64 km) S-N, encompassing about 3,289 square miles (8,519 km²) between 104°30' to 106°W and 48°00' to 48°38'N in far northeastern Montana. The Reservation lies entirely within the Northwestern Glaciated Plains Ecoregion and includes the Glaciated Dark Brown Prairie in the east and Glaciated Northern Grasslands in the west (Woods et al. 2002). The reservation is bounded by Big Muddy Creek on the east, the Missouri River on the south, the lower Milk River and Porcupine Creek on the west, and 48°38' N latitude on the north. Much of the reservation lies in Roosevelt and Valley counties with smaller portions in Daniels and Sheridan counties. Elevations across the Fort Peck Indian Reservation range from 1950 ft (594 m) in the east on the Missouri River in Roosevelt County to 3065 ft (934 m) in the west in Valley County.

Private inholdings are numerous throughout the reservation. Both private and tribal lands are used for dryland agricultural crops, more prevalent in the eastern half of the reservation but widespread across reservation uplands. Much of the reservation's human population of about 11,000 is concentrated in lower areas along the Missouri River bottom. There are older established oil fields (e.g. East Poplar Oil Field), and the reservation is within the area experiencing dramatically increased oil exploration and development associated with the oil-rich Bakken formation of northeastern Montana and northwestern North Dakota.

METHODS

Survey Sites

Fish and aquatic macroinvertebrates

We chose streams to visit stratified by east and west watersheds of the reservation and also by previous reports of MT SOC fish presence (MFISH database). We additionally based stream visits on biointegrity rankings from a previous report on streams of the Fort Peck Reservation (Blue Stem Consulting 1994). The second visit to the watersheds on the western side of the reservation was abbreviated due to a significant rainstorm on 25 June (>2") that caused flooding, unsafe sampling and deteriorated road conditions.

Amphibians and aquatic reptiles

All safely accessible standing water bodies (lentic sites) present within each watershed on 1:24k scale topographic maps or found incidentally while in the field were surveyed if they were on tribal lands or on private lands with permission to survey the sites. Where no standing water bodies were found on topographic maps, accessible lands were examined for areas of low topographic relief or backwaters of streams that might provide lentic breeding habitat. Where there were too many lentic sites to survey within the 3 days allocated to each watershed, those likely to have more suitable habitat were prioritized for survey over springs and wells.

Birds

Two types of point-count sampling were conducted: (1) road-transects, and (2) single off-road points. Road transects consisted of 10 points per transect, each point being 0.5 miles apart (transect length = 4.5 miles). We attempted to run one road transect in each full or partial Quarter-quarter Latilong block, but weather and logistics prevented completion of full coverage across the reservation. Start points of road transects were associated with pre-selected random off-road points, but actual start locations tended to be opportunistic and located where a full transect could be run in each sample block. They were also situated to avoid heavy vehicle traffic as much as possible, and all were on unpaved secondary or tertiary roads. Random single predetermined off-road points for survey were located in native habitat in each Quarter-quarter Latilong block, based on ownership and land cover GIS layers. Points for off-road sampling were located on tribal parcels with no less than a quarter section of native cover and buffered by 200 m of native habitat. As with the road transects, we were not able to conduct off-road point counts in all sample blocks, due to weather and logistic constraints.

Surveys for cuckoos (both Black-billed and Yellow-billed) were conducted following standard play-back protocols, and targeted on major drainages with extensive shrub and tree cover. Waterbird surveys were opportunistic and unstructured (no time duration and no standard methodology). Sites were found while in transit across the reservation or identified from maps and then visited.

Terrestrial small mammals and bats

Because prior surveys were lacking from most areas of the reservation, we trapped for terrestrial small mammals at as many locations as time and logistics permitted. Sampling was focused on native habitats on tribal lands (agricultural and developed landscapes were avoided). Within native habitats, sites chosen for sampling were identified largely on extent of native habitat

(identified from land cover maps), physical access to the site (often requiring significant amounts of time assessing several potential sites), and the geographic spread across the reservation. Within non-random targeted areas, trap lines were clustered because of the travel and time logistics required to set and retrieve trap lines. We also tried to sample from a diversity of native cover types within and between survey areas (e.g., grasslands, shrubby draws, sagebrush, badlands, buffaloberry patches, and riparian woodlands).

Effort was made to sample for bats from all major watersheds across the reservation, but it was necessary to limit sampling to fewer concentrated areas due to travel logistics and weather. Sites were chosen based on the presence of water, trees, or bridges, or a combination of these features. Bats in prairie landscapes are often associated with these features because they also attract insect prey and/or provide bats with roosting habitat. As with small mammal trapping, identification of sites for sampling often required significant amounts of time assessing several potential sites.

Survey Methods

Aquatic Macroinvertebrate Communities & Adult Odonata Collections

Macroinvertebrate communities were sampled qualitatively from ten equally-spaced transects within the 300m assessment reach using the EMAP Reach-Wide protocol (Lazorchak et al. 1998). Sampling started at the downstream transect (A in the EMAP or #10 for the BLM protocol), and proceeded upstream alternating sampling with the 500-micron D-frame net to the left, right or center of the stream channel, so a random sampling of all habitats is achieved. Ten multi-habitat kicks were composited from the net into a 20 liter bucket. All organisms and organic matter in the bucket were elutriated from the inorganic portion and washed onto a 500-micron sieve. The organic portion on the sieve was transferred to one or two 1 liter Nalgene bottles (unless field sub-sampling was needed), labeled and preserved in 95% ethanol and brought to the MTNHP lab in Helena for processing (sorting, identification and data analysis) following protocols outlined by the BLM and MTDEQ (MTDEQ 2006).

Dragonfly and Damselfly adults were documented and collected from sites with aerial sweep nets in a Visual Encounter Survey (VES) fashion while walking the assessment reach. Species were determined using Paulson (2011). Vouchers and photographs of specimens were archived.

Mussel Surveys

Freshwater mussels were surveyed longitudinally along a series of 50m stream lengths with aquascopes (glass-bottom buckets) using a catch-per-unit-effort (CPUE) or catch per linear distance (CPUD) approach, because the emphasis of our study is to determine presence/absence and a relative abundance (Young et al. 2001). Time searched by the surveyors is expressed as number of mussels per person-hour and per measured stream distance (mussels per 50 stream meters). We devoted approximately one man-hour of search per site and an effort was made to sample multiple geomorphic units (riffle, glide and pool sequences) and all available habitats therein.

Fish Surveys

Fish sampling within a 300m stream assessment reach followed prairie fish seining protocols (Bramblett 2005) and were conducted with 6 and 9 meter straight seines in 25-30m increments seining in a downstream direction toward the block seine. Fish captured in a blocked section were transferred to holding buckets until the reach is completed, unless the reach is broken up by riffles,

impassable or dry sections; in this case, fish were processed and released within the section of capture. Fish held in the buckets were identified to species, enumerated, examined for external anomalies (e.g. deformities, eroded fins, lesions, and tumors), and then released. At least 10% of a species' individuals were measured for total length in millimeters (TL mm) to obtain size structure data. Young-of-the-year fish less than 20 mm (TL) were noted on the field sheet (not included in the totals) and released. Analysis of the sampled fish communities used Integrated Biotic Indices (IBI) designed for wadeable prairie streams (Bramblett et. al 2005) and derived Observed/Expected (O/E) Fish Models (Stagliano 2011) to detect impairment in the biological integrity of the sites. The expected number of native fish species for a D006 classified reference stream is 2.5-3.75, while the expected number of fish for a C006 stream is 5.5-8.5 depending on watershed area; dividing the observed number of native fish species at a site by the expected number (O/E) derives a percentage compared to reference condition (>0.8 or 80% = unimpaired). Voucher specimens were only taken in the case of uncertain field identifications, and were preserved in 10% buffered formalin after relaxation with MS-222. These will be deposited with the Montana State University Collections. Adult amphibians or reptiles seen while seining or walking the designated stream reach were counted and recorded even if they were not captured in the seine.

Amphibians and Aquatic Reptiles Lentic Surveys

We used timed visual encounter and dip net surveys in all portions of water bodies that were less than 50 cm in depth. If little emergent vegetation was present then we carefully examined these shallow water environments for the presence of eggs, larvae, or post metamorphic animals. Areas with dense emergent vegetation were intensely sampled with a dip net. At sites where water depths dropped off steeply from the shoreline, visual searches and dip netting were performed from shoreline. Areas with extensive shallows were systematically searched and dip netted while wading through the area on evenly spaced transects. Vouchers were collected only if they filled new county records or required additional examination not possible in the field for proper determination.

Bird Point-count Surveys

Point counts for birds followed general standard methodology (Hutto et al 1986, Hendricks et al. 2008) applied elsewhere in northeastern Montana. All point counts were ten minutes in duration and conducted within approximately five hours following sunrise (and generally not earlier than 05:30). During each point count, birds observed during time intervals of 0-3 minutes, 3-5 minutes, and 5-10 minutes were recorded separately, while attempting not to count individuals more than once. All birds detected visually and/or aurally within a visually-estimated 100 meter radius circle (aided with an optical rangefinder) surrounding the center point were included in the tally. Each individual species was documented with the appropriate 4-letter AOU code, abundance noted, and identified as within the 100-meter circle or outside of the circle. Birds that flew over the circle but did not land during the count were recorded as flyovers. Counts were not conducted during continuous rain or winds generally exceeding about 12 mph (20 km/hr). A basic assessment of macro-vegetation cover was recorded at each point location following general protocols developed by the Rocky Mountain Bird Observatory.

Waterbirds and Cuckoos

Waterbird surveys were usually conducted when weather interfered with other bird survey work. Each survey site location was recorded with a GPS and a total count made for each bird species detected at the site, whether or not it was a species restricted to wetlands or water bodies.

Each site survey for cuckoos lasted 10 minutes. At each location, 3 minutes of passive listening was followed by 5 minutes of call playbacks for each species, and ended with two minutes of passive listening. During the call playback phase, broadcasts of calls occurred at the start of each minute followed by passive listening until time to broadcast calls once again, with the playback process repeated for five cycles.

Terrestrial Small Mammal Trap Line Surveys

Trap lines were oriented in cover type patches so that trap stations were relatively consistent in gross habitat structure. However, individual stations or traps were situated at or near micro-features thought to be used by small mammals (e.g. under shrubs or next to downed wood if present). Each line consisted of 10 stations at 10 paces apart (roughly 90 to 100 m long), often not in a straight line. Each station consisted of a Museum Special snap trap and a Sherman live trap. Snap traps were baited with peanut butter, Sherman traps with bird seed mix and rolled oats to keep the trigger devices clean. Sherman live traps also contained a piece of polyester fiber batting to prevent overnight mortality of captured animals from exposure. Traps at individual stations were placed at least 1 m apart. Trap lines were set in the evening and retrieved as soon as possible the next morning to reduce stress to live animals. Each line, with one exception, was run for a single night. All captured animals were identified, sexed, and weighed in the field; some live individuals were photographed to verify identifications. Animals killed in snap traps were placed in freezer bags and returned from the field for verification of field identifications (shrews, voles), and then deposited with the Philip L. Wright Vertebrate Museum at the University of Montana for preparation as skulls and study skins.

Bat Acoustic Surveys

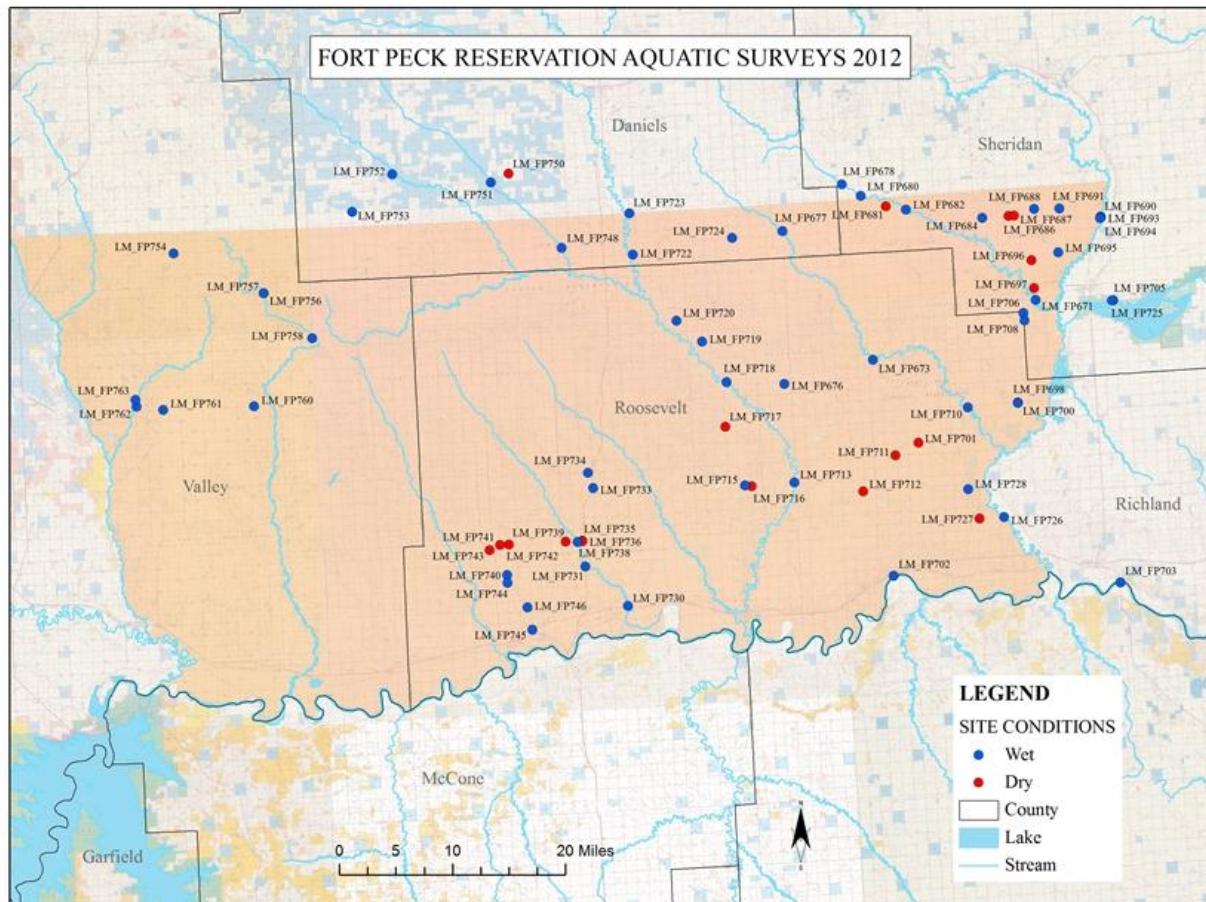
Bat acoustic calls were recorded using Pettersson D240X detectors, with captured recordings stored on I-River MP3 recorders with up to 1 GB of capacity. Nightly deployment of each detector/recorder was considered an independent survey. Up to three detectors were set each night at different locations while conducting terrestrial small mammal trapping surveys. Detectors were retrieved each morning as soon as possible, and recordings downloaded in the field to a laptop computer. After call files were downloaded they were converted to .wav format and stored in folders labeled for each survey site and date. Two Wildlife Acoustics SM2 detectors with 32 GB of storage capacity were placed for multi-year monitoring in major riparian corridors. Calls were downloaded monthly and later analyzed. Call analysis for bats was conducted back at the office using Sonobat 3.0 software (Sonobat, Arcata, CA). Species determinations were made using the bat acoustic key developed for Montana by Szewczak and Weller (2006).

RESULTS AND DISCUSSION

Fish Communities:

We visited 72 sites of six stream classifications during the course of two field trips; 55 sites had water present, 36 of these sites contained fish (Figure 1). We documented 17 fish species during our surveys, five of these were non-native (Table 1, Appendix 2). The highest species richness site was one of the Poplar River sites (LM_FP713), where 8 fish species were reported (5 native species). Fathead minnows and Brook Sticklebacks had the highest site occurrence rate of 60 and 58% respectively, while the non-native northern pike was collected at 52% of total fish sites (Table

Figure 1. Sites for aquatic surveys in 2012, showing those that were dry when visited. Site numbers correspond to those listed in Table 2 and Appendix 3.



1). Across all stream classes and reaches, total fish species per site averaged 3.1 with 2.2 native species; if we exclude stream reaches dominated by northern pike, average native species richness goes up to 3.5 (Table 2). Northern Pike are a non-native predatory fish in Fort Peck watersheds documented to decimate native prairie minnow assemblages (Moyle and Leidy 1992, Stagliano 2008). Fort Peck streams with Northern Pike present (Smoke, Tule, lower Police, Poplar and their tributaries) reported significantly fewer fish species present and lower numbers of other individuals (definitions) at any of the previously collected locations from the 1950's (Appendix 2); this is likely

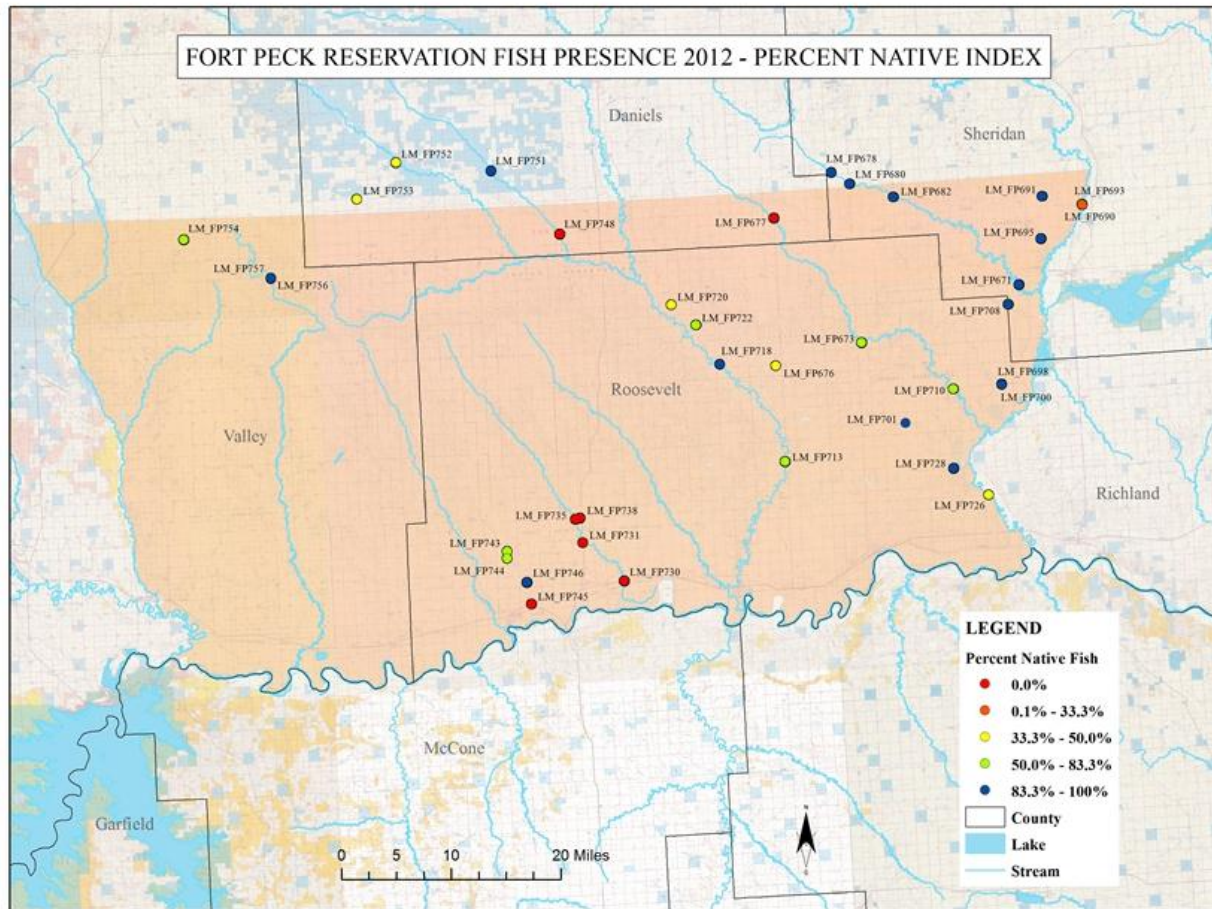
when present. We did not collect Pearl Dace (S2 MT SOC; see Appendix 1 for state rank due to the introduction of northern pike within these watersheds (MT FWP stocking records circa 1970). We did document the MT SOC species, Northern Redbelly Dace (NORD)(5 sites) and Iowa Darter (3 sites) co-occurring at two sites, Wolf and East Fork Porcupine Creeks, while the NORD was found additionally at Little Wolf Creek; all NORD sites had no pike present (Photo 1). The Iowa Darter was also reported from Smoke Creek which did contain pike.

We documented six unique stream classification types in the study area: Large Glaciated Plains Valley River System (A001) (the Missouri River), Medium Prairie Rivers (B006) (Poplar and Big Muddy), Perennial Glaciated Prairie Streams (C006: Smoke, Wolf, Tule, etc.), and numerous stream reaches classified as Northwestern Glaciated Plains Intermittent Stream systems (D006: Otter, Little Wolf or E006: Alkali, Irish Coulees) and the Great Plains Perennial Spring (S005) (Appendix 3, Stagliano 2005, <http://fieldguide.mt.gov/displayES.aspx?id=9>). Proper stream classification is important when determining biological integrity (Hawkins and Norris 2000) and expected species richness. The Intermittent Prairie Stream (E006) in Montana is naturally fishless 80% of the time; therefore, absence of fish, in itself, should not be viewed as a biological impairment (e.g. Chelsea Creek). We also visited three wetlands that would be classified as Western Emergent Marsh systems (WEEMMA).

Table 1. Fish recorded during the 2012 Fort Peck Surveys. Frequency of Occurrence (FO) was calculated from the # of site visits detected / # of visits capable for detection (n=36). Proportion of individuals out of total individuals captured. * = Introduced Species

Fish Species	# Sites Detected	F of O (%)	% of total ind.
Fathead Minnow	22	60	33.4
Brook Stickleback	21	58	55.0
Northern Pike*	19	52	1.1
White Sucker	14	38	5.2
Brassy Minnow	8	22	0.9
Northern Redbelly Dace	5	14	1.4
Black Bullhead*	4	11	0.2
Common Carp*	4	11	0.0
Iowa Darter	3	8	0.3
Lake Chub	2	5	1.4
Longnose Dace	2	5	0.0
Emerald Shiner*	2	5	0.1
Spottail Shiner*	2	5	0.6
Stonecat	2	5	0.0
Flathead Chub	1	3	0.1
Goldeye	1	3	0.0
Sand Shiner	1	3	0.2

Figure 2. Percent of native fish at various sites during the 2012 surveys. Site numbers correspond to those listed in Table 2 and Appendix 3.



In terms of biological integrity measured by the fish IBI, 15 of 36 sites scored in the unimpaired range (>55 , i.e. good health), while 9 sites scored moderately impaired and the remainder were slightly impaired (Table 2). But, when measured in taxonomic completeness by the O/E, only 9 sites (25%) had scores greater than the 0.8 unimpaired threshold score, indicating that a majority of sites were adversely affected by introduced fish species or missing expected native species. Fifteen sites had 100% native species present, while seven sites had no native fish present and 22 sites had their fish communities comprised of $>90\%$ native fish individuals even when there were non-native fish present (Table 2, Figure 2). Although a stream survey may observe an all native fish species community, this does not necessarily mean that the site has a complete fish assemblage. The predicted reference condition fish community for the Northwestern Glaciated Plains Intermittent Stream (D006) includes the pearl dace (none were detected) and the lake chub (reported from only 2 sites). Thus, many Fort Peck streams within this classification are missing species commonly collected from nearby reference streams.

Table 2. Total number and total native fish species detected by site. Percent native individuals collected per site, IBI and O/E scores for the 36 sites. Underlined values are fish communities that ranked biologically unimpaired.

Site_code	Stream	Total # species	Native Species	% Native Fish	% Native Individuals	IBI Score	O/E
LM_FP671	Wolf Creek #1	5	5	100.0	100.0	<u>55.9</u>	<u>0.91</u>
LM_FP678	Wolf Creek #2	4	4	100.0	100.0	<u>60.8</u>	<u>1.07</u>
LM_FP680	Wolf Creek #3	4	4	100.0	100.0	<u>61.6</u>	<u>1.07</u>
LM_FP682	Wolf Creek #4	5	5	100.0	100.0	53.7	<u>0.91</u>
LM_FP690	Otter Creek	3	3	100.0	100.0	52.7	0.55
LM_FP691	Otter Creek	5	4	80.0	96.7	<u>57.7</u>	0.73
LM_FP693	Otter Creek	3	1	33.3	80.0	<u>62.8</u>	0.27
LM_FP676	Hay Creek	2	1	50.0	93.6	<u>68.8</u>	0.67
LM_FP673	Smoke Creek #1	3	2	66.7	74.1	47.5	0.36
LM_FP677	Smoke Creek #2	1	0	0.0	0.0	43.5	0.00
LM_FP710	Smoke Creek #3	3	2	66.7	91.1	<u>62.0</u>	0.36
LM_FP695	Alkali Coulee	2	2	100.0	100.0	<u>67.2</u>	0.53
LM_FP728	Lake Creek	2	2	100.0	100.0	<u>65.8</u>	0.53
LM_FP698	Irish Coulee	2	2	100.0	100.0	<u>68.9</u>	<u>1.33</u>
LM_FP700	Irish Coulee	2	2	100.0	100.0	<u>69.4</u>	<u>1.33</u>
LM_FP708	Sauerkraut Coulee	2	2	100.0	100.0	<u>69.7</u>	<u>1.33</u>
LM_FP720	Give Out Morgan Creek	2	1	50.0	25.0	<u>60.9</u>	0.67
LM_FP730	Tule Creek #1	2	0	0.0	0.0	49.5	0.00
LM_FP731	Tule Creek #2	2	0	0.0	0.0	42.5	0.00
LM_FP735	Tule Creek (trib)	1	0	0.0	0.0	50.5	0.00
LM_FP738	Tule Creek #3	1	0	0.0	0.0	50.5	0.00
LM_FP743	Little Wolf Creek #2	6	5	83.3	97.0	53.0	<u>0.91</u>
LM_FP744	Little Wolf Creek #3	6	5	83.3	97.0	53.0	<u>0.91</u>
LM_FP745	Little Wolf Creek #1	3	0	0.0	0.0	43.3	0.00
LM_FP746	Little Wolf Creek #4	4	4	100.0	100.0	50.4	0.73
LM_FP748	Police Creek #1	1	0	0.0	0.0	42.6	0.00
LM_FP751	Police Creek #2	2	2	100.0	100.0	51.7	0.36
LM_FP752	West Fork Poplar #1	2	1	50.0	99.0	57.5	0.18
LM_FP753	Hell Coulee	2	1	50.0	25.0	53.5	0.18
LM_FP754	Snow Coulee	3	2	66.7	66.7	50.4	0.53
LM_FP756	E. Fork Porcupine Creek	4	4	100.0	100.0	52.1	0.73
LM_FP757	E. Fork Little Porcupine Creek	3	3	100.0	100.0	37.7	0.55
LM_FP713	Poplar River	8	5	62.5	74.1	53.4	0.78
LM_FP726	Big Muddy Creek	7	3	42.9	92.5	24.4	0.55
LM_FP718	Poplar River (Oxbow tributary)	1	1	100.0	100.0	42.8	0.18
LM_FP722	Poplar River (unnamed trib.)	3	2	66.7	94.1	42.1	0.31

Photo 1. Typical Glaciated Prairie Stream (D006: Wolf Creek, LM_FP680) habitat containing Northern Redbelly Dace, Brassy Minnow, Brook Stickleback, Fathead Minnow, Lake Chub and Iowa Darter. Macroinvertebrates include ten dragonfly/damselfly species, ten aquatic mollusk taxa, nine beetle species and three mayflies, *Caenis latipennis*, *Caenis youngi* (SOC G4S2) and *Callibaetis fluctuans*.



Aquatic Macroinvertebrates

Overall, 180 unique macroinvertebrate taxa were reported from assessment samples, Odonate adult surveys or collected incidentally at ~50 sites visited in 2012 (Appendix 2 and 4). Two species of concern (SOC) mayflies (*Caenis youngi* and *Anaetris eximia*) and one dragonfly (*Stylurus intricatus*) were collected at two sites each (Photo 2, Table 3).

Five potential SOC Odonata species were collected across the study area. The highest species richness among invertebrate groups, in order of dominance, was: Diptera (36 taxa), Odonata (31), Coleoptera (28), Mollusks (24) and 22 species of Mayflies reported (Table 3). The most ubiquitous damselflies were the Northern Bluet and Eastern Forktail reported at 28 and 25 sites, respectively. The 12-Spotted Skimmer and Cherry-Faced Meadowhawk dragonflies were the most widespread across the region occurring at 19 and 14 sites, respectively (Appendix 4). We reported numerous sites with ten or 11 species of dragonfly and damselfly adults flying during our early

Photo 2. Typical Glaciated Large Valley River (A001: Missouri River, LM_FP703) habitat containing 12 large river fish species and ~20 macroinvertebrates including the only two species of stoneflies collected during this project, the Species of Concern dragonfly, *Stylurus intricatus* (G4S1) and sand-dwelling mayfly species, *Anaetris eximia* (G3S3)



summer visit; this count could potentially increase to twice that number of species at a site as successions of additional species emerge seasonally into the fall.

The Physa snails (*Physella acuta* and *P. gyrina*) were the most abundant and widespread mollusk species detected at 30 sites with over 1100 individuals. The only two stonefly species reported during this survey were collected at the mainstem Missouri River sites. Despite structured mussel searches at 25 sites and surveying an additional 30 streams, we only documented the giant floater mussel, (*Pyganodon grandis*) at three sites in Smoke Creek (C006) and the Poplar River (B006). Stream type D006 is typically giant floater mussel habitat because of their host-fish relationship with the brook stickleback, but we did not document evidence of individuals at sites within this stream classification. The native, but invasive, crayfish, *Orconectes virilis* was collected at nine sites and often in high densities (Appendix 4); this species is infamous for dominating suitable stream habitats and out-competing other species. They likely pushed out another native crayfish, *Orconectes immunis*, which we did not document on Fort Peck lands, but has been previously reported across eastern Montana.

Average macroinvertebrate taxa richness per site when full EMAP assessment samples were taken (n=12) was 35 taxa (Appendix x). The Wolf Creek site #3 (LM_FP680) with 51 macroinvertebrate taxa reported was the most diverse stream documented, followed by the Poplar River (site LM_FP713) with 46 macroinvertebrate taxa including 15 mayflies, 7 odonata and 6 caddisfly species (Appendix 4).

Table 3. Macroinvertebrate species (by Order/Class) documented during the 2012 Fort Peck Surveys. Numbers of Montana Species of Concern (SOC) or Potential SOC taxa reported.

Invertebrate Order or Class	Number of Taxa	# of SOC	# of PSOC
Diptera (True Flies)	36	0	0
Odonata (Dragonflies/Damselflies)	31	1	5
Coleoptera (Aquatic Beetles)	28	?	?
Mollusca (Snails/Clams/Mussels)	24	0	0
Ephemeroptera (Mayflies)	22	2	0
Trichoptera (Caddisflies)	14	0	0
Clitellata (Leeches/Worms)	7	0	0
Acarina (Water Mites)	6	0	0
Hemiptera (True Bugs)	6	0	0
Crustaceans (Amphipoda/Crayfish)	4	0	0
Plecoptera (Stoneflies)	2	0	0
Total	180	3	5

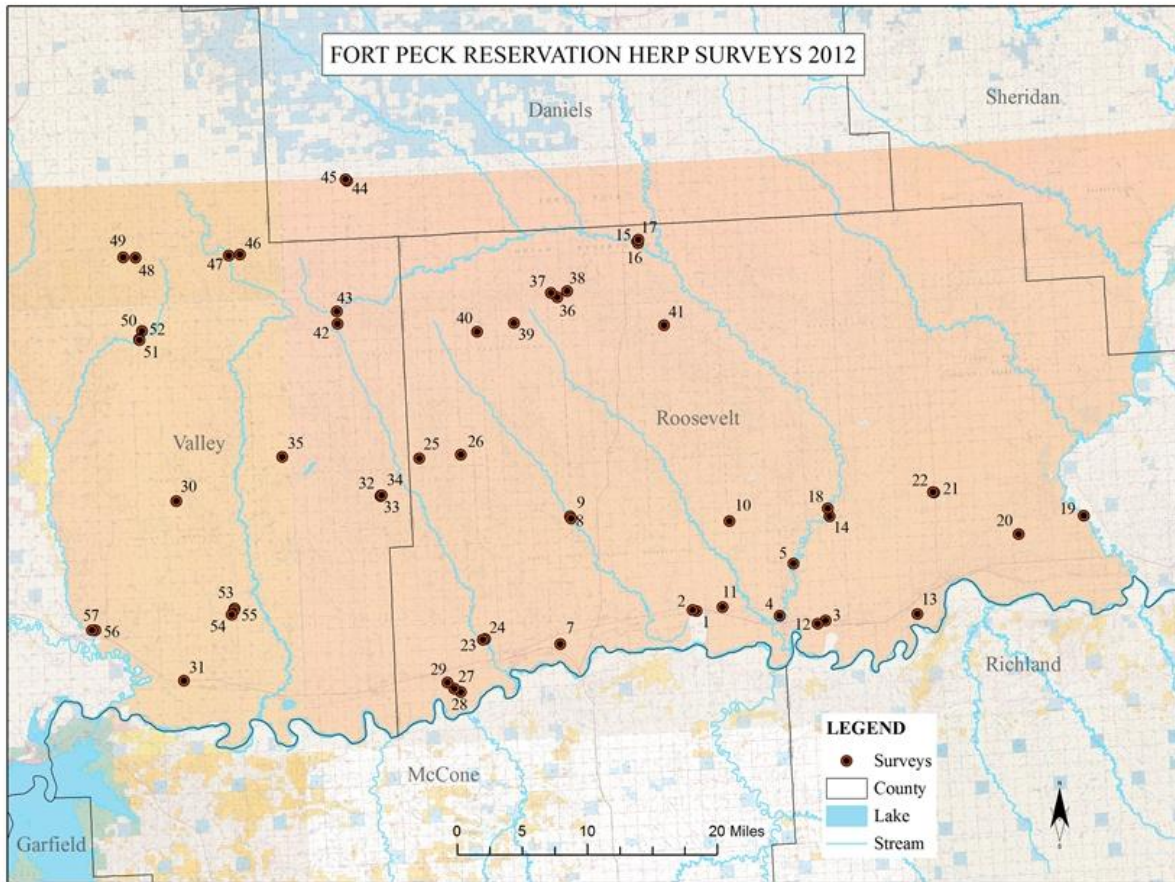
Lentic Amphibians and Reptiles

Fifty-seven wetland sites were surveyed for the presence of amphibians and aquatic reptiles during 7 June to 5 July (Figure 3). Five amphibian species and two reptile species were detected at 77.2% of the sites, no amphibians or reptiles were detected at 22.8% of the sites (Table 4). Boreal Chorus Frog and Northern Leopard Frog were the most abundant and widespread species, each found at more than one quarter to one half of sites; only one additional species, Woodhouse’s Toad, was detected at as much as 10% of sites.

Table 4. Summary of amphibian and reptile species detected on Fort Peck Indian Reservation during 57 standardized site surveys, 7 June to 5 July 2012. Bolded species are Montana Animal Species of Concern. Survey details are given in Appendix 5.

Species	No. sites	% sites
Barred Tiger Salamander (<i>Ambystoma mavortium</i>)	5	8.8
Plains Spadefoot (<i>Spea bombifrons</i>)	1	1.8
Woodhouse’s Toad (<i>Anaxyrus woodhousii</i>)	6	10.5
Boreal Chorus Frog (<i>Pseudacris maculata</i>)	29	50.9
Northern Leopard Frog (<i>Lithobates pipiens</i>)	17	29.8
Painted Turtle (<i>Chrysemys picta</i>)	3	5.3
Plains Gartersnake (<i>Thamnophis radix</i>)	4	7.0
No Amphibians or Reptiles Detected	13	22.8

Figure 3. Lentic sites surveyed for amphibians and aquatic reptiles in 2012. Site numbers correspond to those in Appendix 5.



Breeding (presence of aquatic larval stages) was documented at 100% of the sites where Barred Tiger Salamander was found, 83.3% of sites with Woodhouse’s Toad, 82.8% of the sites with Boreal Chorus Frog, and 29.4% of sites with Northern Leopard Frog (Appendix 5). One state SOC, Plains Spadefoot, was noted at a single site in Valley County (Site # 54: Figure 3, Appendix 5), where breeding was also documented. All of these species are expected to occur in this region of the state (Maxell et al. 2003, Werner et al. 2004)

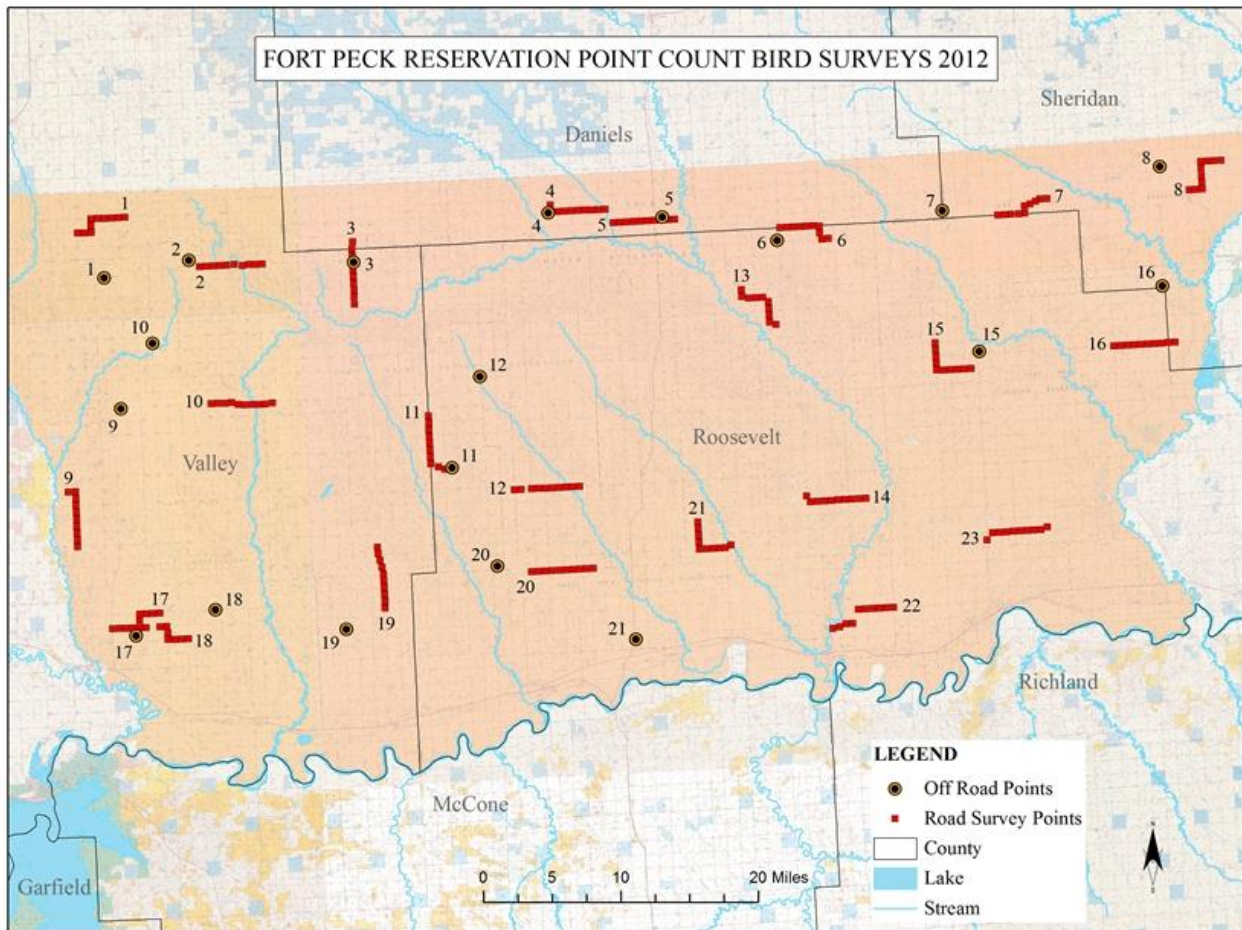
Of the 42 sites where amphibians were found (73.7% of all sites surveyed), fish were present at 10 of these (23.8%) and not detected at 32 (76.2%) (One-sample proportion test, $Z_{corrected} = 3.24$, $P = 0.0012$). The species of fish present often could not be identified, but Northern Pike was noted at six of the sites where Boreal Chorus Frog and Northern Leopard Frog were detected and at one site where no amphibians were found. Of the six sites with both pike and amphibians, larval frogs were absent at three of them. Predatory fish are known to suppress lentic-breeding amphibian populations (e.g., Pearson and Goater 2008).

Two reptile species were detected during the surveys, Painted Turtle and Plains Gartersnake, each at less than 10% of sites (Table 4, Appendix 5). Neither is a state SOC.

Bird Surveys

One hundred and ten bird species were identified within the reservation boundary during the various surveys of 2012 (Appendix 6). This list included 16 MT SOC birds of which ten (Ferruginous Hawk, Golden Eagle, Long-billed Curlew, Loggerhead Shrike, Sprague's Pipit, Chestnut-collared Longspur, McCown's Longspur, Brewer's Sparrow, Baird's Sparrow, Bobolink) could be considered upland species, the other six classified as waterbirds or wetland/riparian-related species (Horned Grebe, American White Pelican, Black-crowned Night-Heron, Franklin's Gull, Red-headed Woodpecker, Nelson's Sparrow). All 16 all are S3 or S3B except the S2B Chestnut-collared Longspur.

Figure 4. Locations of point count road transects and single off-road points for bird point-count surveys. Numbers correspond to road transect and off-road point numbers in Appendices 7 and 8, respectively.



Point counts were largely conducted in upland regions across the reservation between 25 May and 2 June. We counted 70 species within 100 m of our 249 count points (Table 5, Appendices 7 and 8). Three non-SOC bird species occurred on the greatest proportion of points: Horned Lark on 79.1% of points, Western Meadowlark on 57.4%, and Brown-headed Cowbird on 50.6%. Chestnut-collared Longspur, the fourth commonest and a SOC, was reported on 47.8% of points. Two additional SOC birds (Baird's Sparrow, McCown's Longspur) were detected on more than 10% of all points, and Sprague's Pipit (a Candidate for Federal Listing) on 9.6% of points. In summary, eight of ten upland SOC birds observed during the 2012

field season were detected during formal point count surveys across the reservation, on both road transects and off-road points (Figure 4, Table 5, Appendices 7 and 8).

Table 5. Bird species detected within 100 m of count points on the Fort Peck Indian Reservation during May-June 2012, ranked by frequency of occurrence on points. Sampling effort included a total of 249 points from 23 ten-point road transects and 19 individual off-road points. Bolded species are Montana Species of Concern.

Species	Total Points	% Total Points	Total Individuals	% Total Individuals
Horned Lark	197	79.1	474	16.7
Western Meadowlark	143	57.4	182	6.4
Brown-headed Cowbird	126	50.6	274	9.6
Chestnut-collared Longspur	119	47.8	358	12.6
Grasshopper Sparrow	82	32.9	102	3.6
Vesper Sparrow	82	32.9	94	3.3
Savannah Sparrow	71	28.5	106	3.7
Lark Bunting	65	26.1	185	6.5
Baird's Sparrow	57	22.9	78	2.7
Barn Swallow	46	18.5	81	2.8
Brewer's Blackbird	37	14.9	80	2.8
McCown's Longspur	36	14.5	53	1.9
Red-winged Blackbird	33	13.3	93	3.3
Clay-colored Sparrow	32	12.9	37	1.3
Mourning Dove	29	11.6	41	1.4
Eastern Kingbird	28	11.2	33	1.2
Sprague's Pipit	24	9.6	25	<1
Mallard	19	7.6	32	1.1
Killdeer	12	4.8	14	<1
Brown Thrasher	12	4.8	15	<1
Bobolink	12	4.8	20	<1
Common Grackle	12	4.8	29	1.0
Ring-necked Pheasant	11	4.4	13	<1
Northern Harrier	11	4.4	12	<1
Western Kingbird	11	4.4	14	<1
American Robin	10	4.0	12	<1
Franklin's Gull	9	3.6	32	1.1
California Gull	9	3.6	131	4.6
Yellow Warbler	9	3.6	10	<1
Wilson's Phalarope	8	3.2	13	<1
American Goldfinch	8	3.2	13	<1
Wilson's Snipe	7	2.8	13	<1
Marbled Godwit	7	2.8	11	<1
Say's Phoebe	6	2.4	6	<1
Blue-winged Teal	5	2.0	8	<1
Northern Pintail	5	2.0	10	<1
Sora	5	2.0	6	<1
Upland Sandpiper	5	2.0	5	<1
Cliff Swallow	5	2.0	37	1.3

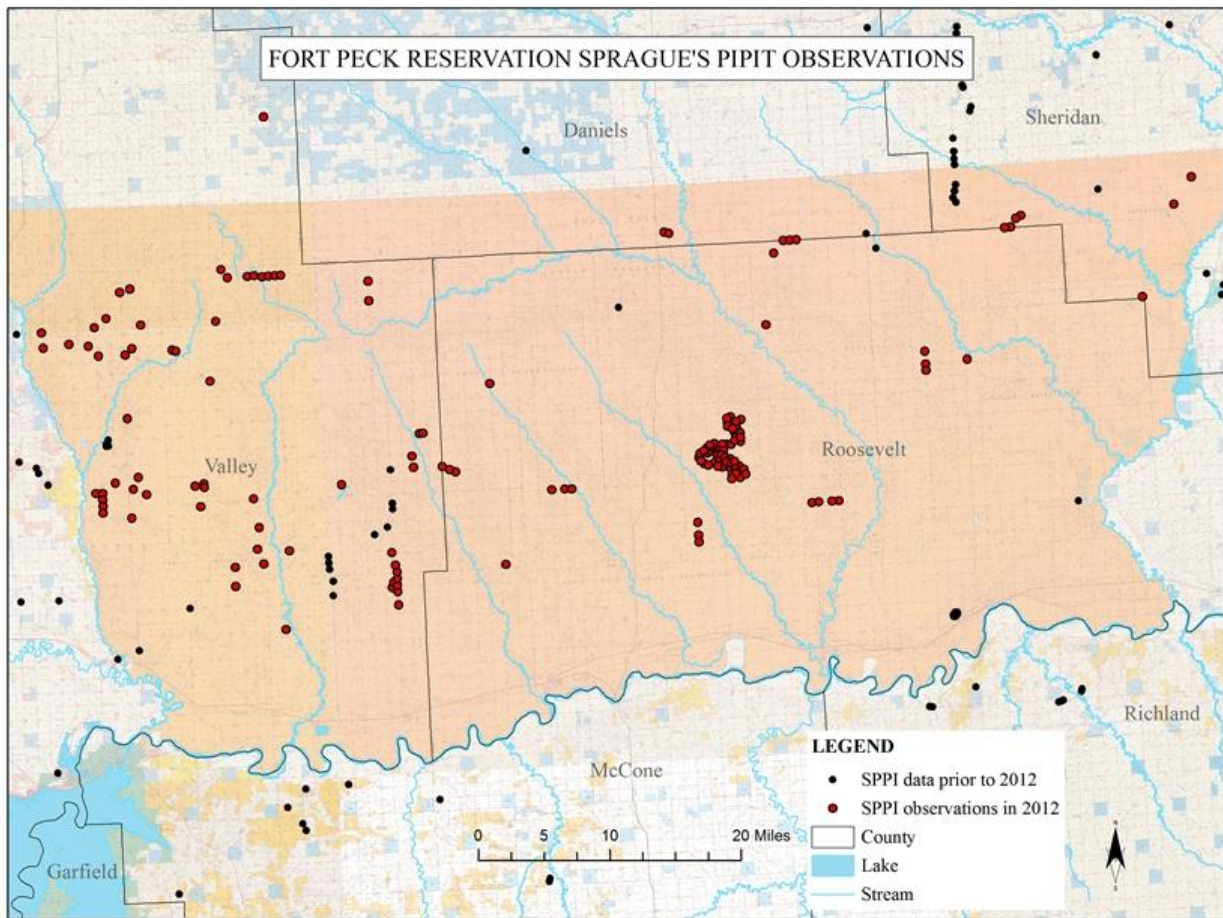
Species	Total Points	% Total Points	Total Individuals	% Total Individuals
House Sparrow	5	2.0	8	<1
Brewer's Sparrow	4	1.6	6	<1
Gadwall	3	1.2	7	<1
Northern Shoveler	3	1.2	6	<1
Gray Partridge	3	1.2	6	<1
Swainson's Hawk	3	1.3	3	<1
American Widgeon	2	0.8	3	<1
Green-winged Teal	2	0.8	2	<1
Sharp-tailed Grouse	2	0.8	3	<1
Willet	2	0.8	2	<1
Long-billed Curlew	2	0.8	4	<1
Ring-billed Gull	2	0.8	3	<1
Northern Flicker	2	0.8	3	<1
Willow Flycatcher	2	0.8	2	<1
Loggerhead Shrike	2	0.8	4	<1
Tree Swallow	2	0.8	2	<1
Gray Catbird	2	0.8	2	<1
European Starling	2	0.8	5	<1
Orchard Oriole	2	0.8	3	<1
Ruddy Duck	1	0.4	2	<1
Eared Grebe	1	0.4	1	<1
American Kestrel	1	0.4	1	<1
Rock Pigeon	1	0.4	1	<1
Least Flycatcher	1	0.4	1	<1
Common Raven	1	0.4	1	<1
Common Yellowthroat	1	0.4	1	<1
Chipping Sparrow	1	0.4	1	<1
Lark Sparrow	1	0.4	4	<1
Nelson's Sparrow	1	0.4	1	<1
Bullock's Oriole	1	0.4	2	<1
Baltimore Oriole	1	0.4	1	<1

The suite of birds detected in 2012 on the Fort Peck Indian Reservation included most of those expected to breed regularly in uncultivated upland grasslands and shrublands of the northern Great Plains (Kantrud and Kologiski 1982). Counts on the reservation included all of the 20 species detected every year during 2001-2007 on point counts in north Valley County, nine of which were SOC, as well as 20 of 22 species detected on counts in north Blaine and Phillips counties (Hendricks et al. 2008).

There were obvious differences, however, between the reservation and north Valley County points in which species ranked as most abundant. The five most abundant species in north Valley County in percent of points on which detected < 100m were, in sequence, Chestnut-collared Longspur, Horned Lark, Western Meadowlark, Sprague's Pipit, and Baird's Sparrow (Hendricks et al. 2008). On the reservation, the first three species fell in the top five in frequency of points, but Sprague's Pipit and Baird's Sparrow ranked 17th and 9th on reservation points and were replaced by Brown-headed Cowbird and Grasshopper Sparrow. Percent of reservation points on which detected were similar to north Valley

County for Horned Lark and Western Meadowlark, but Chestnut-collared Longspur occurred on 47.8% of reservation points, 79.7-89.9% of north Valley points. This pattern is consistent for Sprague's Pipit (9.6% vs. 49.8-71.4%, respectively) and Baird's Sparrow (22.9% vs. 30.4-46.4%, respectively). This comparison is probably a reflection that most north Valley points fell in non-agricultural habitat, whereas the reservation points were located in more of a mixture of agricultural and nonagricultural habitats in a landscape where agriculture was more prevalent. One indicator of this difference in land cover of the two study areas is the relative occurrence of Brown-headed Cowbird on reservation and north Valley points: 50.6% of reservation points, 4.3-10.1% of north Valley points.

Figure 5. Distribution of Sprague's Pipit across the Fort Peck Indian Reservation, showing detections during 2012 from all sources, and reports from prior years.



Sprague's Pipit was not especially abundant on reservation point counts, detected within a 100 m radius on 24 of 249 points (and represented by 25 individuals), although detections were widely spread (Figure 5, Appendices 7 and 8). However, the survey results in Table 5 under-represent the distribution and relative abundance of this grassland obligate species across the reservation. A summary of all Sprague's Pipit records for 2012 from all sources (including ours) providing data to the Tracker Point Observation Database (<http://mtnhp.org/Tracker/NHTMap.aspx>), maintained by MTNHP, shows many more detections, particularly in the Valley County portion of the reservation where another survey project occurred in 2012, as well as at the bison release site in Roosevelt County (Figure 5). The entire

reservation was not surveyed during either of these efforts, however, and there remain few records of Sprague's Pipit from the southeastern quarter of the reservation where there are relatively large expanses of private inholdings and agricultural lands.

There was a tendency to focus our counts of birds on individuals that fell within 100 m of count points, generally noting those beyond 100 m in cases where they would not otherwise have been reported on particular points. Thus, for Sprague's Pipit, McCown's Longspur, and Bobolink (all are SOC birds), we had more points with detections > 100 m than < 100 m. Sprague's Pipit was reported on 24 points < 100 m and 44 points beyond that distance ($P = 0.013$), McCown's Longspur on 36 points and 60 points, respectively ($P = 0.009$), Bobolink on 12 points and 39 points, respectively ($P = 0.0001$) (Two-sample proportions tests). By way of contrast, Chestnut-collared Longspur and Baird's Sparrow (both SOC birds) had more points with detections < 100 m than > 100 m: 119 and 44, respectively for the longspur ($P < 0.0001$), 57 and 24, respectively, for the sparrow ($P = 0.001$). In all of the above cases, the larger number of points associated with detection of a particular species is the minimum number of points where a particular species was present during our counts. The raw numbers for all points are not presented in this report, but they are available from MTNHP.

Nesting by two SOC birds, Sprague's Pipit and Chestnut-collared Longspur, was documented during our surveys in 2012 (Appendix 9). A pipit nest with nestlings was found on 27 May in southern Daniels County, and four longspur nests with eggs or nestlings were found between 25 and 31 May in Daniels and Roosevelt counties.

We conducted opportunistic counts for waterbirds and wetland associated bird species at 15 wetland sites across the reservation during late May (Appendix 10). Fifty-two species were detected at wetland sites, most, but not all, being wetland-associated species and including five SOC birds: Horned Grebe - 1 site; Black-crowned Night-Heron - 2 sites; Franklin's Gull - 2 sites; Loggerhead Shrike - 2 sites; Nelson's Sparrow - 1 site. Several species detected during these non-standardized surveys, such as the migratory shorebird species Sanderling, Semipalmated Sandpiper, White-rumped Sandpiper, Pectoral Sandpiper, Stilt Sandpiper, and Red-necked Phalarope, were not observed at any other time.

Call play-back surveys for Black-billed Cuckoo and Yellow-billed Cuckoo (both S3B MT SOC) were conducted at 12 sites with broadleaf trees and shrubs present (mostly riparian areas) during late July. No cuckoos were detected.

Terrestrial Small Mammal Surveys

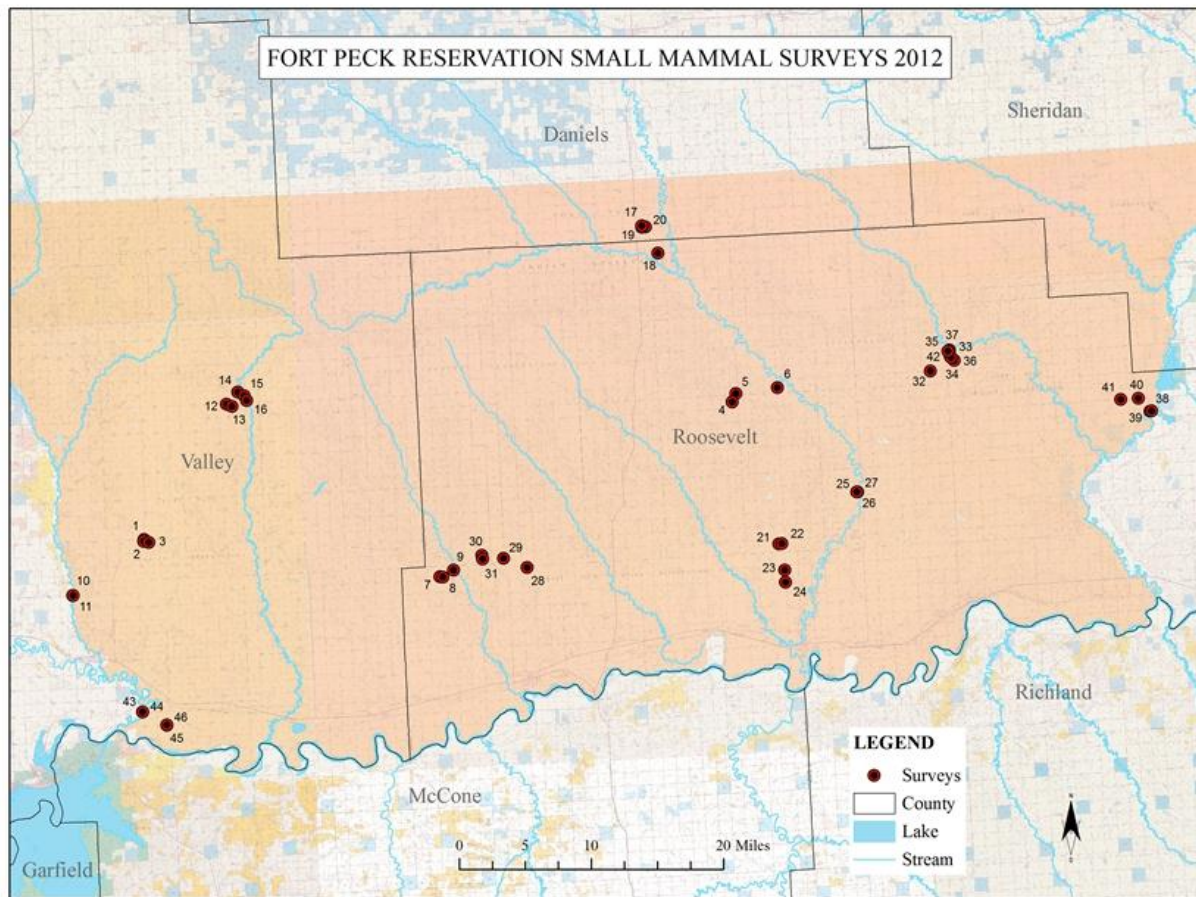
Fifty-seven captures of terrestrial small mammals were made during 940 trap-nights of effort between 29 July and 11 September at 46 sites (Figure 6, Appendix 11). No terrestrial small mammals were captured at 30.4% of the sites (Table 6). One site (Site # 22) was trapped two nights but resulted in no captures either night (Appendix 11). Most abundant and widespread was the Deer Mouse, accounting for 87.7% (50 individuals) of total captures from 65.2% of sites trapped. Hayden's Shrew, Pygmy Shrew, Meadow Vole, White-footed Mouse (Photo 3), Western Harvest Mouse (Photo 4), and Western Jumping Mouse completed the list of species captured, all single captures at single sites with the exception of two White-footed Mice at two sites. Trapping success (standardized as number of captures/1000 trap-nights) was 60.6 for the 2012 effort.

The capture of a single Pygmy Shrew is noteworthy, as it is the first record from Valley County and the first in the region from cottonwood bottomland habitat. There are only two prior records for this species in northeastern Montana, both captures of single individuals from glacial pothole wetland sites in open grassland terrain of Sheridan County: 23 July 1977 ca. 5 miles N Comertown, and 22 August 2005 ca. 5.5 miles S Westby. The only other record from eastern Montana is a skull recovered from a raptor pellet at

Table 6. Summary of terrestrial small mammal species captured on Fort Peck Indian Reservation during 940 trap-nights of effort at 46 sites (one site trapped two consecutive nights), 29 July – 11 September 2012. Trap success is adjusted to total captures/1000 trap-nights. Survey details are given in Appendix 11.

Species	Total Sites	Total Individuals	Trap Success
Hayden's Shrew (<i>Sorex haydeni</i>)	1	1	1.06
Pygmy Shrew (<i>Sorex hoyi</i>)	1	1	1.06
Meadow Vole (<i>Microtus pennsylvanicus</i>)	1	1	1.06
White-footed Mouse (<i>Peromyscus leucopus</i>)	2	2	2.13
Deer Mouse (<i>Peromyscus maniculatus</i>)	30	50	53.19
Western Harvest Mouse (<i>Reithrodontomys megalotis</i>)	1	1	1.06
Western Jumping Mouse (<i>Zapus princeps</i>)	1	1	1.06
No Captures	14	---	---
Combined Success	32	57	60.64

Figure 6. Locations of terrestrial small mammal trap lines on Fort Peck Indian Reservation during 2012. Numbers correspond to sites listed in Appendix 11.



Wild Horse Lake, Hill County (Hendricks 2001). Few records exist from adjacent western North Dakota (Jones et al. 1983), so the eastern Montana records fill a large hiatus in the known distribution across the northwestern extension of the northern Great Plains (Long 1974). Pygmy Shrews are apparently rare throughout Montana (Foresman 2012), possibly common only in isolated pockets west of the Continental Divide. Despite over 300,000 trap-nights of effort (e.g., Allen et al. 1997, Foresman 1999, Carson et al. 2006, Borak et al. 2012), fewer than 180 individuals from about 32 sites have been captured, and the species probably merits addition to the state SOC list.

Photo 3. Left) Small mammal trap line site #46, a riparian site dominated by plains cottonwood north of the Missouri River, Valley County: Pygmy Shrew, Deer Mouse and White-footed Mouse were captured at this location. Right) White-footed Mouse captured nearby at site #44.



Photo 4. Left) Small mammal trap line site #32, a shallow drainage dominated by snowberry and rose on a bench above Smoke Creek, Roosevelt County: Deer Mouse and Western Harvest Mouse were captured at this location. Right) Western Harvest Mouse captured at site #32.



The terrestrial small mammal trapping effort of 2012 missed several native species known or likely to occur within the boundaries of the Fort Peck Indian Reservation. These include the SOC Arctic Shrew (*Sorex arcticus*), recently discovered at the Manning Lake Wetlands Tribal Wildlife Refuge (Jeanne Spaur, personal communication), Masked Shrew (*S. cinereus*), SOC Merriam’s Shrew (*S. merriami*), Montane Shrew (*S. monticolus*), SOC Preble’s Shrew (*S. preblei*), Northern Pocket Gopher (*Thomomys talpoides*), Olive-backed Pocket Mouse (*Perognathus fasciatus*), Ord’s Kangaroo Rat (*Dipodomys ordii*), Sagebrush Vole (*Lemmyscus curtatus*), Prairie Vole (*Microtus ochrogaster*), Bushy-tailed Woodrat (*Neotoma cinerea*), and Northern Grasshopper Mouse (*Onychomys leucogaster*). More targeted trapping will likely result in capture of several of these species.

Bat Detector Acoustic Surveys

Thirty-two sites across the reservation (Figure 7) were monitored overnight between 29 July and 11 September for bats with acoustic detectors. Detectors malfunctioned at two sites, but recorded all night, or until storage capacity for files was reached, at 94% (30) of the sites. Eight species of bats were detected during single-night acoustic surveys across the reservation, and included three SOC bats (Table 7). At least one species of bat was detected at 96.7% (29) of the 30 sites where bat detectors functioned during the night.

Figure 7. Locations of bat detector surveys in 2012 on the Fort Peck Indian Reservation. Numbers correspond to sites listed in Appendix 12.

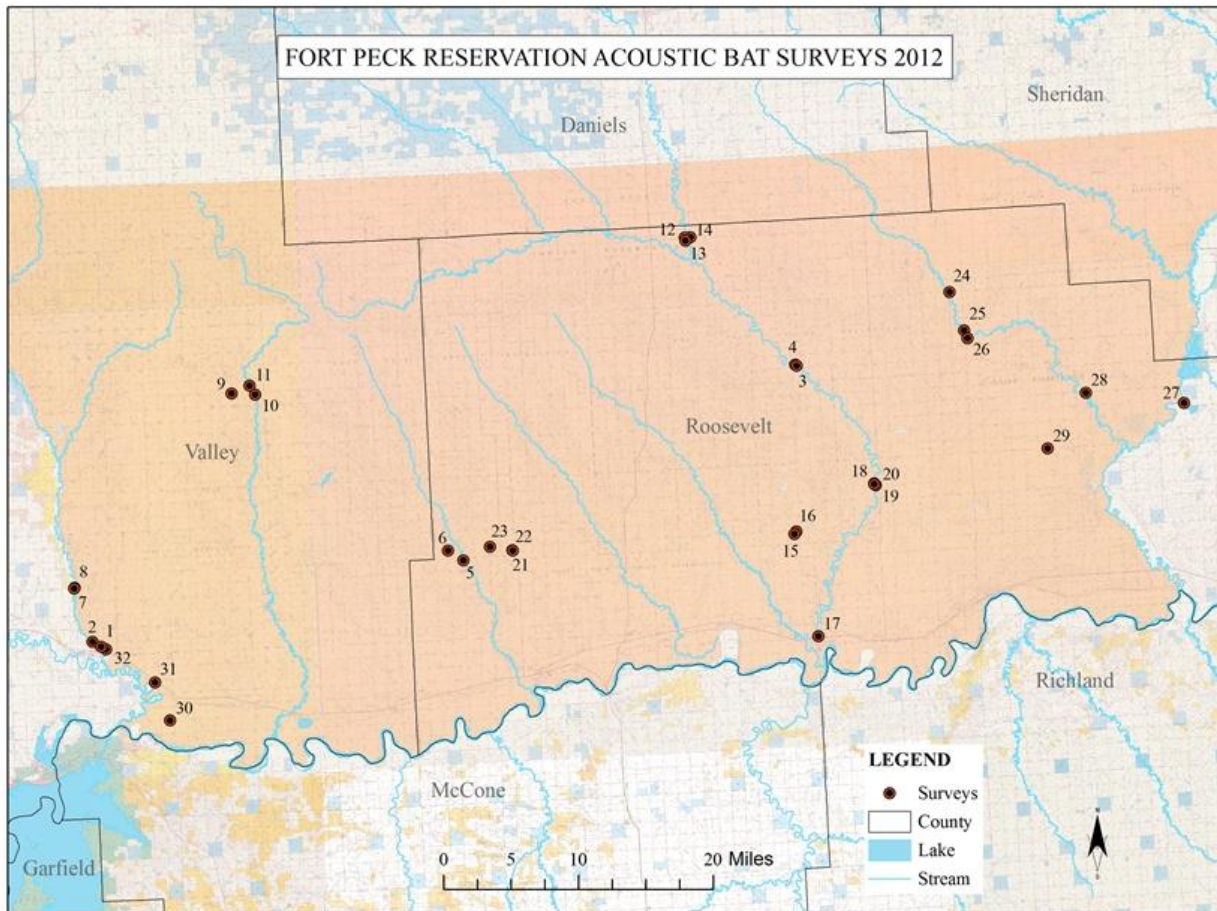


Table 7. Summary of bats detected during Pettersson D240X single-night acoustic surveys on the Fort Peck Indian Reservation at 30 sites, 29 July – 11 September 2012. Calls with greatest confidence (definitive > probable) are assessed for each site. Bolded species are Montana Animal Species of Concern. Survey details are given in Appendix 12.

Species	Definitive Sites	Probable Sites	Total Sites	% Sites
Townsend’s Big-eared Bat (<i>Corynorhinus townsendii</i>)	0	2	2	6.7
Big Brown Bat (<i>Eptesicus fuscus</i>)	2	4	6	20.0
Eastern Red Bat (<i>Lasiurus borealis</i>)	6	5	11	36.7
Hoary Bat (<i>Lasiurus cinereus</i>)	13	3	16	53.3
Silver-haired Bat (<i>Lasionycteris noctivagans</i>)	25	1	26	86.7
Western Small-footed Myotis (<i>Myotis ciliolabrum</i>)	0	14	14	46.7
Western Long-eared Myotis (<i>Myotis evotis</i>)	0	2	2	6.7
Little Brown Myotis (<i>Myotis lucifugus</i>)	12	2	14	46.7
No Bat Detections	---	---	1	3.3

Most widespread was Silver-haired Bat, at 86.7% of the 30 sites where equipment worked (Table 7), followed by Hoary Bat (S3 MT SOC: 53.7% of 30 sites). Both species were identified at the majority of sites where they were detected with calls classified as definitive (D). Western Small-footed Myotis and Little Brown Myotis were detected at 46.7% of sites each, but occurrence of the Western Small-footed Myotis was based only on calls that were classified as probable (P) at 100% of 14 sites, whereas Little Brown Myotis occurrence was based on calls classified as definitive at 12 (85.7%) of 14 sites (Table 7), a more reliable result. Other species detected included Townsend’s Big-eared Bat (S2 MT SOC), Big Brown Bat, Eastern Red Bat (S2S3, MT SOC) and Western Long-eared Myotis.

Average bat species richness (mean ± SD) across all 30 sites where equipment worked was 3.0 ± 1.8 (Appendix 12), and ranged from no detections to 7 species at site #19 near the Poplar River (Photo 5). However, species richness at sites based only on definitive (D) calls was 2.0 ± 1.3, and ranged from no detections to 5 species at site # 18, also on the Poplar River (Photo 6).

Photo 5. Left) Site #19: Poplar River - Townsend’s Big-eared Bat (P), Big Brown Bat (D), Hoary Bat (D), Silver-haired Bat (D), Western Small-footed Myotis (P), Western Long-eared Myotis (P), Little Brown Myotis (D). Right) Site # 23: 12 mi NNW Wolf Point - Silver-haired Bat (D), Western Small-footed Myotis (P).



Photo 6. Left) Site 18: Poplar River - Big Brown Bat (D), Eastern Red Bat (D), Hoary Bat (D), Silver-haired Bat (D), Western Small-footed Myotis (P), Little Brown Myotis (D). Right) Site #6: Badger Hole Coulee - Eastern Red Bat (D), Hoary Bat (P), Silver-haired Bat (D), Little Brown Bat (D).



Two long-term bat acoustic monitoring stations were established in 2012, one on the Poplar River 4.5 mi N of Poplar (48.17551N, 105.17855W) in Roosevelt County, the other along the Missouri River 5 mi SE of Frazer (48.01620N, 105.94954W) in Valley County (Table 8). Data collection is on-going.

Table 8. Summary of monthly bat activity in 2012 at two long-term SM2 acoustic monitoring stations on Fort Peck Indian Reservation. All species listed are based on calls classified definitive. Species in bold are SOC.

Month	Missouri River Station ¹	Poplar River Station ¹
June	EPFU, LABO , LACI , LANO, MYCI, MYEV, MYLU	LACI , LANO, MYCI, MYLU
July	COTO , EPFU, LABO , LACI , LANO, MYLU	LANO, MYCI, MYLU
August	COTO , EPFU, LABO , LACI , LANO, MYCI, MYEV, MYLU	LACI , MYLU
September	EPFU, LABO , LACI , LANO, MYCI, MYEV, MYLU	LANO, MYLU

¹ Species codes: **COTO** (*Corynorhinus townsendii* Townsend's Big-eared Bat), EPFU (*Eptesicus fuscus* Big Brown Bat), **LABO** (*Lasiurus borealis* Eastern Red Bat), **LACI** (*Lasiurus cinereus* Hoary Bat), LANO (*Lasionycteris noctivagans* Silver-haired Bat), MYCI (*Myotis ciliolabrum* Western Small-footed Myotis), MYEV (*Myotis evotis* Western Long-eared Bat), MYLU (*Myotis lucifugus* Little Brown Myotis).

Eight bat species were detected at the Missouri River station based on definitive calls, four at the Poplar River station. An additional species recorded only at the Poplar River station was Long-legged Myotis, based on probable calls in July. More species were detected at the Missouri River station than the Poplar River station, probably because of greater riparian tree cover at the former station. Last bats detected in autumn 2012 were on 28 September at the Poplar River site, 14 October at the Missouri River site, suggesting most bats have left the reservation by then or have settled for winter in roosts at unknown locations.

Most of the bat species likely to occur on the reservation were detected during the 2012 survey eight species of which were based on definitive (D) calls (Tables 7 and 8, Appendix 12). Missing were Long-

legged *Myotis* based only on probable calls (P) in July at the Poplar River long-term monitoring station, and Northern *Myotis* (*Myotis septentrionalis*), which was not recorded at all. Both have been reported in the region previously, in summer and winter for the former species and only in winter for the latter species (Culbertson Mine outside the reservation boundary) (Swenson and Shanks 1979, Dorak et al. 2012). Presence of Townsend's Big-eared Bat, Long-legged *Myotis*, and Northern *Myotis* at the now-reclaimed Culbertson Mine in Richland County are the only winter records of bats near the reservation (Hendricks 2012), but Western Long-eared *Myotis* and Little Brown *Myotis* have been found roosting in winter farther south in Richland County in the reclaimed Sidney Mine, so they, as well, might occur on the reservation in winter, especially if appropriate roosts exist along the Missouri River.

Opportunistic and Pre-2012 Observations

An additional 37 observations of three species of amphibian, 15 observations of five species of reptile, and 36 observations of 12 species of terrestrial small mammals were made during the course of other survey work (Appendix 13). Few of these were SOC but they helped fill gaps in distributions across the reservation. Opportunistic observations of birds are too numerous to list, but they have been incorporated in the MTNHP Point Observations Database where they can be viewed.

A review of surveys and reports in the MTNHP Tracker database for Fort Peck Indian Reservation prior to 2012 resulted in 46 species of fish listed for the reservation, including ten SOC (Appendix 14) and an additional 32 records for four amphibian species (no SOC), 15 records for six reptile species, including the MT SOC Western Hog-nosed Snake (S2) and Smooth Green Snake (S2), and 26 records for 11 terrestrial small mammal species, including the MT SOC Black-tailed Prairie Dog (S3). Records dated from 1806 to 2011 (Appendix 15).

The most notable opportunistic observations from 2012 included three of Smooth Green Snake (Photo 7, Appendix 13) and the first documented for Common Gartersnake north of the Missouri River in northeastern Montana (Maxell et al. 2003, Werner et al. 2004).

Photo 7. Left) Smooth Green Snake, above Smoke Creek, Roosevelt County. Right) Common Gartersnake, Irish Coulee, Roosevelt County.



SOME CONCLUSIONS AND SUGGESTIONS

A baseline inventory such as the one of 2012 generates many records of the native fauna and helps establish a basic understanding of patterns for faunal distributions and relative abundances. It also helps place the focal landscape in a regional context. To that end, results of the 2012 baseline inventory show that the Fort Peck Indian Reservation still supports most of the native non-game vertebrate species that are expected and also present in adjacent areas of Montana. However, preliminary results for fish and birds, in particular, indicate that the reservation has become degraded relative to what it once was and relative to some nearby areas in Valley County where livestock grazing is more prevalent than dryland crop production. Thus, more of the native prairie remains intact and supports native non-game vertebrates in greater overall abundances than on reservation lands. Where large blocks of native landscapes are still present, especially in the western half of the reservation, native prairie obligate birds like Sprague's Pipit are more abundant and widespread.

Given the size of the reservation and limitations on the 2012 survey coverage, it is suggested that more inventory work be undertaken. Large gaps in survey coverage remain for most vertebrate taxa. Distribution and abundance data for bats and terrestrial small mammals across the reservation remain sketchy, as is survey coverage for birds in the southeastern quarter of the reservation, with the exception of the Manning Lake Tribal Wildlife Refuge. Fish survey data and lentic amphibian and reptile data indicate that breeding by some species is likely compromised by the presence of non-native predatory fish at some sites, but how this might vary among years is unknown. Native reptiles remain the least surveyed and documented vertebrate group, and their distribution and relative abundance across the reservation the least known, a result of time-consuming methods necessary to implement formal surveys and the difficulty in making detections.

A cost-efficient method of gathering non-game observation data is to routinely document opportunistic encounters while doing other activities, and to develop a tribal database for the capture and storage of the data created. Opportunistic observations would help fill many remaining gaps in distributions and provide tribal wildlife biologists with a running tally of wildlife encounters. Accumulated opportunistic observations would also provide the basis for developing more targeted and formal surveys. Opportunistic observations could also be solicited from the public, and materials developed to help interested individuals identify what they find, be it the animal itself (road kills, sightings) or evidence of its presence (e.g., recent beaver gnawing, pocket gopher and ground squirrel burrows, tracks, hair, raptor pellets that could be submitted and dissected for small mammal skulls).

Little literature is currently available that documents impacts of oil development on non-game mammals and birds (McCarthy and Childress 2007, Peterson 2008), and much of what is available is not well-designed or replicated such that it can be applied at the landscape or seasonal range level with any high degree of certainty, and especially when tied to annual climate variability. Thus, it would be extremely valuable to gather such data from the reservation as the energy boom associated with oil exploration and development continues to develop on tribal and adjacent lands.

LITERATURE CITED

- Allen, K. L., D. Flath, and T. Weaver. 1997. Small mammal capture efficiencies among three trap types. *Intermountain Journal of Sciences* 3:1-6.
- BlueStem Consulting, Inc. 1994. Biological Integrity, Habitat and Water Quality of Streams and Rivers on the Fort Peck Reservation, Montana. Report to the Fort Peck Tribes Office of Environmental Protection.
- Bramblett, R. G., T. R. Johnson, A. V. Zale and D. G. Heggem. 2005. Development and Evaluation of a Fish Assemblage Index of Biotic Integrity for Northwestern Great Plains streams. *Transactions of the American Fisheries Society* 134:624–640.
- Carson, S., A. Messer, R. Rauscher, and S. Story. 2006. Statewide small mammal and Montana Fish, Wildlife and Park's Lands vertebrate inventory project; 2006 final report. 22 pp.
- Dorak, B., J. Stewart, R. L. Rauscher, D. Waltee, and A. Begely. 2012. Milk River conservation and restoration state wildlife grant, native species monitoring final report 2008-2011. Report to U. S. Fish and Wildlife Service, Denver, CO. Montana Fish, Wildlife and Parks, Region 6. Glasgow, MT. 65 pp. plus appendices.
- Foresman, K. R. 1999. Distribution of the Pygmy Shrew, *Sorex hoyi*, in Montana and Idaho. *Canadian Field-Naturalist* 113:681-683.
- Foresman, K. R. 2012. Mammals of Montana, second edition. Mountain Press. Missoula, MT. 429 pp.
- Hendricks, P. 2001. A significant new record of the Pygmy Shrew, *Sorex hoyi*, on the Montana-Alberta border. *Canadian Field-Naturalist* 115:513-514.
- Hendricks, P. 2012. Winter records of bats in Montana. *Northwestern Naturalist* 93:154-162.
- Hendricks, P., S. Lenard, C. Currier, B. A. Maxell, and J. Carlson. 2008. Surveys for grassland birds of the Malta Field Office – BLM, including a seven-year study in north Valley County. Report to the Bureau of Land Management. Montana Natural Heritage Program, Helena, MT. 26 pp. + appendices.
- Hossack, B., D. Pilliod, and S. Corn. 2003. Amphibian survey of Medicine Lake National Wildlife Refuge Complex 2001-2002. Final Report to U.S. Fish and Wildlife Service Medicine Lake National Wildlife Refuge. USGS Northern Rocky Mountain Science Center, Aldo Leopold Wilderness Research Institute, Missoula, MT. 11 pp.
- Hutto, R. L., S. M. Pletschet, and P. Hendricks. 1986. A fixed-radius point count method for nonbreeding and breeding season use. *Auk* 103:593-602.
- Jones, J. K., Jr., D. M. Armstrong, R. S. Hoffmann and C. Jones. 1983. Mammals of the northern Great Plains. University of Nebraska Press. Lincoln, NE. 379 pp.

- Kantrud, H. A., and R. L. Kologiski. 1982. Effects of soils and grazing on breeding birds of uncultivated upland grasslands of the northern Great Plains. U.S. Fish and Wildlife Service, Wildlife Research Report 15. 33 pp.
- Lazorchak, J.M., D. J. Klemm and D.V. Peck (editors). 1998. Environmental Monitoring and Assessment Program - Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.
- Long, C. A. 1974. *Microsorex hoyi* and *Microsorex thompsoni*. Mammalian Species No. 33.
- Maxell, B. A., J. K. Werner, P. Hendricks and D. L. Flath. 2003. Herpetology in Montana: a history, status summary, checklists, dichotomous keys, accounts for native, potentially native, and exotic species, and indexed bibliography. Northwest Fauna 5.
- McCarthy, J., and D. Childress. 2007. Wildlife and energy literature review – passerines and raptors. Developed for Montana Department of Fish, Wildlife and Parks and U.S.D.A. Department of the Interior Bureau of Land Management. State of Montana Contract No. 080085, Sawtooth Enterprises and DChildress Consulting. 43 pp.
- Moyle, P.B., and R.A. Leidy. 1992. Loss of biodiversity in aquatic ecosystems: evidence from fish faunas. Pages 127-169. in Conservation Biology: the theory and practice of nature conservation, preservation and management. Chapman and Hall, New York.
- Paulson, D.R. 2009. Dragonflies and Damselflies of the West (Princeton Field Guides). Princeton University Press, New Jersey. 535 pp.
- Pearson, K. J., and C. P. Goater. 2008. Distribution of long-toed salamanders and introduced trout in high- and low-elevation wetlands in southwestern Alberta, Canada. *Ecoscience* 15:453-459.
- Perry, N. D., D. T. Stewart, E. M. Madden, and T. J. Maier. 2004. New records for the Arctic Shrew, *Sorex arcticus* and the newly recognized Maritime Shrew, *Sorex maritimensis*. *Canadian Field-Naturalist* 118:400-404.
- Peterson, J. 2008. Wildlife and energy literature review, non-game mammals and furbearers. Developed for Montana Department of Fish, Wildlife and Parks and U.S.D.A. Department of the Interior Bureau of Land Management. State of Montana Contract No. 080100, Joel Peterson Consulting. 31 pp.
- Stagliano, D.M., 2008. Pearl Dace in the Big Muddy Creek Watershed: Extirpation Saved by the Barrier, 40th Annual Meeting of the American Fisheries Society, Montana Chapter, Billings, Montana.
- Stagliano, D.M. 2005. Aquatic Ecosystem Diversity in Montana's Missouri Drainages: Community Classification Project. Final Report to the Bureau of Land Management: <http://mtnhp.org/reports.asp#ecology>

- Swenson, J. E., and G. F. Shanks, Jr. 1979. Noteworthy records of bats from northeastern Montana. *Journal of Mammalogy* 60:650-652.
- Szewczak, J. M., and T. J. Weller. 2006. Echolocation call characteristics of Montana bats. Unpublished document. Humboldt State University Bat Lab, Arcata, CA. 4 pp.
- Werner, J. K., B. A. Maxell, P. Hendricks and D. L. Flath. 2004. Amphibians and reptiles of Montana. Mountain Press. Missoula, MT. 262 pp.
- Woods, A. J., J. M. Omernik, J. A. Nesser, J. Shelden, J. A. Comstock, and S. H. Azevedo. 2002. Ecoregions of Montana, 2nd edition (color poster with map, descriptive text, summary tables, and photographs). Map scale 1:1,500,000. U. S. Environmental Protection Agency.
- Young, M.R., P.J. Cosgrove, L.C. Hastie and B. Henniger. 2001. A standardised method for assessing the status of freshwater mussels in shallow water. *Journal of Molluscan Studies* 67: 395-396.

APPENDIX 1. HERITAGE RANK DEFINITIONS

HERITAGE PROGRAM RANKS

The international network of Natural Heritage Programs employs a standardized ranking system to denote global (range-wide) and state status. Species are assigned numeric ranks ranging from 1 to 5, reflecting the relative degree to which they are “at-risk”. Rank definitions are given below. A number of factors are considered in assigning ranks — the number, size and distribution of known “occurrences” or populations, population trends (if known), habitat sensitivity, and threat. Factors in a species’ life history that make it especially vulnerable are also considered (e.g., dependence on a specific pollinator).

GLOBAL RANK DEFINITIONS (NatureServe 2003)

G1 Critically imperiled because of extreme rarity and/or other factors making it highly vulnerable to extinction

G2 Imperiled because of rarity and/or other factors making it vulnerable to extinction

G3 Vulnerable because of rarity or restricted range and/or other factors, even though it may be abundant at some of its locations

G4 Apparently secure, though it may be quite rare in parts of its range, especially at the Periphery

G5 Demonstrably secure, though it may be quite rare in parts of its range, especially at the Periphery

T1-5 **Intraspecific Taxon** (trinomial) —The status of intraspecific taxa (subspecies or varieties) are indicated by a “T-rank” following the species’ global rank

STATE RANK DEFINITIONS

S1 At high risk because of extremely limited and potentially declining numbers, extent and/or habitat, making it highly vulnerable to extirpation in the state

S2 At risk because of very limited and potentially declining numbers, extent and/or habitat, making it vulnerable to extirpation in the state

S3 Potentially at risk because of limited and potentially declining numbers, extent and/or habitat, even though it may be abundant in some areas

S4 Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern

S5 Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range

COMBINATION RANKS

G#G# or S#S# **Range Rank**—A numeric range rank (e.g., G2G3) used to indicate uncertainty about

the exact status of a taxon

QUALIFIERS

NR Not ranked

Q Questionable taxonomy that may reduce conservation priority—Distinctiveness of this entity as a taxon at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority (numerically higher) conservation status rank

X Presumed Extinct—Species believed to be extinct throughout its range. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered

H Possibly Extinct—Species known from only historical occurrences, but may nevertheless still be extant; further searching needed

U Unrankable—Species currently unrankable due to lack of information or due to substantially conflicting information about status or trends

HYB Hybrid—Entity not ranked because it represents an interspecific hybrid and not a species

? Inexact Numeric Rank—Denotes inexact numeric rank

C Captive or Cultivated Only—Species at present is extant only in captivity or cultivation, or as a reintroduced population not yet established

A Accidental—Species is accidental or casual in Montana, in other words, infrequent and outside usual range. Includes species (usually birds or butterflies) recorded once or only a few times at a location. A few of these species may have bred on the one or two occasions they were recorded

Z Zero Occurrences—Species is present but lacking practical conservation concern in Montana because there are no definable occurrences, although the taxon is native and appears regularly in Montana

P Potential—Potential that species occurs in Montana but no extant or historic occurrences are accepted

R Reported—Species reported in Montana but without a basis for either accepting or rejecting the report, or the report not yet reviewed locally. Some of these are very recent discoveries for which the program has not yet received first-hand information; others are old, obscure reports

* A rank has been assigned and is under review. Contact the Montana Natural Heritage Program for assigned rank

B Breeding—Rank refers to the breeding population of the species in Montana

N Nonbreeding—Rank refers to the non-breeding population of the species in Montana

APPENDIX 2. CHECKLIST OF FISH SPECIES AT AQUATIC SURVEY SITES

Appendix 2. Checklist of fish species and numbers per site reported from the Fort Peck Indian Reservation area during the 2012 baseline surveys (see Figures 1 and 2). Bolded species are Montana Species of Concern. *= Non-native fish species.

	Wolf Creek 1	Wolf Creek 2	Wolf Creek 3	Wolf Creek 4	Otter Creek 1	Otter Creek 2	Otter Creek 3	Hay Creek	Smoke Creek 1	Smoke Creek 2	Smoke Creek 3	Alkali Coulee	Lake Creek #1	Irish Coulee below	Irish Coulee above	Saurkraut Coulee LM_FP708	Poplar River trib
Black Bullhead*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brassy Minnow	0	22	25	30	14	1	0	0	0	0	0	0	0	0	0	0	0
Brook Stickleback	40	122	225	12	363	45	12	88	0	0	0	332	326	550	680	940	66
Common Carp*	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Fathead Minnow	500	12	9	160	1772	100	0	0	22	0	0	30	104	24	12	6	45
Lake Chub	180	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0
Longnose Dace	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Iowa Darter	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
Flathead Chub	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Goldeye	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emerald Shiner*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Northern Pike*	0	0	0	0	0	5	2	6	14	3	15	0	0	0	0	0	0
Northern Redbelly Dace	0	15	12	50	0	0	0	0	0	0	0	0	0	0	0	0	0
Sand Shiner	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spottail Shiner*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stonecat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
White Sucker	52	0	0	0	0	1	0	0	18	0	150	0	0	0	0	0	0
Total Individuals	774	171	271	262	2149	152	15	94	54	3	168	362	430	574	692	946	111

	Give out Morgan	Tule Creek 1 LM_FP730	Tule Creek 2 LM_FP731	Tule Creek trib	Tule Creek 3	Little Wolf Creek 1 LM_FP74	Little Wolf Creek 2 LM_FP74	Little Wolf Creek 4 LM_FP74	Police Creek 1 LM_FP748	Police Creek 2 LM_FP751	WFPoplar LM_FP752	Hell Coulee LM_FP753	Snow Coulee	EF Porcupine LM_FP756	EF Porcupine LM_FP757
Black Bullhead*	0	3	12	0	0	1	11	0	0	0	0	0	0	0	0
Brassy Minnow	0	0	0	0	0	0	16	7	0	0	0	0	0	0	0
Brook Stickleback	0	0	0	0	0	0	28	42	0	240	0	2	0	3200	4
Common Carp*	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Fathead Minnow	0	0	0	0	0	0	220	120	0	52	0	0	24	860	120
Lake Chub	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Longnose Dace	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Iowa Darter	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0
Flathead Chub	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Goldeye	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emerald Shiner*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Northern Pike*	6	18	14	3	10	5	0	0	10	0	3	6	16	0	0
Northern Redbelly Dace	0	0	0	0	0	0	90	0	0	0	0	0	0	18	0
Sand Shiner	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spottail Shiner*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stonecat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
White Sucker	0	0	0	0	0	0	1	4	0	0	300	0	8	0	10
Total Individuals	8	21	26	3	10	7	366	173	10	292	303	8	48	4112	134

Appendix 2. continued

	East Fork Porcupine Creek (trib) LM_FP761	Poplar River LM_FP713	Big Muddy Creek	Poplar River (Oxbow) LM_FP718	Poplar River trib LM_FP722
Black Bullhead*	0	0	0	0	0
Brassy Minnow	0	0	0	0	0
Brook Stickleback	0	0	0	0	0
Common Carp*	0	1	2	0	0
Fathead Minnow	24	0	169	0	2
Lake Chub	0	0	0	0	0
Longnose Dace	0	4	0	0	0
Iowa Darter	0	0	0	0	0
Flathead Chub	0	12	0	0	0
Goldeye	0	0	4	0	0
Emerald Shiner*	0	12	8	0	0
Northern Pike*	0	0	4	0	2
Northern Redbelly Dace	0	0	0	0	0
Sand Shiner	0	28	0	0	0
Spottail Shiner*	0	74	2	0	0
Stonecat	0	1	0	0	0
White Sucker	0	96	24	5	30
Total Individuals	24	228	213	5	34

APPENDIX 3. AQUATIC SITES SURVEY SUMMARY

Appendix 3. Aquatic site information for the 2012 Fort Peck surveys (see Figures 1 and 2). Water Present (1) or Dry (0) during visit. Fish Presence (1) or Absence (0). Macroinvertebrate presence (1), absence (0) or taxa count reported for site: **bolded values** are full macroinvertebrate assessment sites.

AES code	site_code	Stream	Date Visit	Latitude	Longitude	Water Present	Fish Present	Macroinvert Pres/Taxa	Photo Link
C006	LM_FP671	Wolf Creek #1	6/13/2012	48.490030	-104.602833	1	1	42	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP671_dn.jpg
C006	LM_FP673	Smoke Creek #1	6/14/2012	48.426266	-104.922788	1	1	41	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP673_m.jpg
D006	LM_FP676	Hay Creek	6/14/2012	48.402197	-105.095361	1	1	17	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP675.jpg
C006	LM_FP677	Smoke Creek #2	6/14/2012	48.597164	-105.082614	1	1	24	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP677.jpg
C006	LM_FP678	Wolf Creek #2	6/14/2012	48.652765	-104.963085	1	1	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP678_b.jpg
C006	LM_FP680	Wolf Creek #3	6/14/2012	48.636475	-104.928046	1	1	51	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP680_up.jpg
C006	LM_FP681	Wolf Creek trib	6/14/2012	48.621034	-104.880478	0	0	0	no photo
C006	LM_FP682	Wolf Creek #4	6/14/2012	48.615696	-104.842314	1	1	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP682.jpg
D006	LM_FP684	Crazy Horse Creek	6/14/2012	48.599329	-104.695844	1	0	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP684.jpg
E006	LM_FP686	Dry trib to Otter	6/14/2012	48.599294	-104.645095	0	0	0	no photo
E006	LM_FP687	Dry trib to Otter	6/14/2012	48.599436	-104.634329	0	0	0	no photo
E006	LM_FP688	Tributary to Otter (Intermittent)	6/14/2012	48.606533	-104.594761	1	0	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP688.jpg
D006	LM_FP690	Otter Creek	6/14/2012	48.604712	-104.546070	1	1	40	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP689.jpg
D006	LM_FP691	Otter Creek	6/15/2012	48.590985	-104.467776	1	1	19	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP692.jpg
D006 c	LM_FP693	Otter Creek	6/15/2012	48.590021	-104.466644	1	1	6	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP693.jpg
E006	LM_FP694	Intermittent Pool	6/15/2012	48.589255	-104.468506	1	0	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP694.jpg
E006	LM_FP695	Alkali Coulee	6/15/2012	48.549181	-104.553672	1	1	14	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP695.jpg
E006	LM_FP696	Coal Mine Coulee trib (rainfilled)	6/15/2012	48.541278	-104.605973	0	0	0	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP696.jpg
E006	LM_FP697	Trib to Wolf Creek	6/15/2012	48.505525	-104.603934	0	0	0	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP697.jpg
D006	LM_FP698	Irish Coulee	6/15/2012	48.360621	-104.649449	1	1	12	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP698.jpg
D006	LM_FP700	Irish Coulee	6/15/2012	48.360188	-104.649530	1	1	12	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP699.jpg

AES code	site_code	Stream	Date Visit	Latitude	Longitude	Water Present	Fish Present	Macroinvert Pres/Taxa	Photo Link
E006	LM_FP701	Spring Creek (dry)	6/15/2012	48.316901	-104.844827	0	0	0	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP701.jpg
A001	LM_FP702	Missouri River	6/15/2012	48.148905	-104.907075	1	yes, no sample	18	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP702.jpg
A001	LM_FP703	Missouri River	6/15/2012	48.122803	-104.474489	1	yes, no sample	20	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP703.jpg
L001	LM_FP705	Medicine Lake	6/15/2012	48.483119	-104.453793	1	yes, no sample	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP705.jpg
E006	LM_FP706	Sauerkraut Coulee (trib)	6/16/2012	48.474334	-104.627583	1	0	9	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP706.jpg
D006	LM_FP708	Sauerkraut Coulee	6/16/2012	48.465025	-104.626695	1	1	19	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP708.jpg
C006	LM_FP710	Smoke Creek	6/16/2012	48.358328	-104.745773	1	1	4	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP710.jpg
E006	LM_FP711	Lake Creek (dry tributary)	6/16/2012	48.302626	-104.889848	0	0	0	no photo
E006	LM_FP712	Lake Creek (dry tributary)	6/16/2012	48.259204	-104.955703	0	0	0	no photo
B006	LM_FP713	Poplar River	6/16/2012	48.275594	-105.087362	1	1	46; 15 mayfly taxa	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP713.jpg
E006	LM_FP715	Poplar River (dry tributary)	6/16/2012	48.273702	-105.169258	0	0	0	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP715.jpg
E006	LM_FP716	Poplar River (Intermittent tributary)	6/16/2012	48.275271	-105.181854	1	1	11 Odonata	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP716.jpg
D006	LM_FP717	Long Creek	6/16/2012	48.351698	-105.213441	0	0	0	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP717.jpg
E006	LM_FP718	Poplar River (Oxbow tributary)	6/16/2012	48.408421	-105.206714	1	1	11 Odonata	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP718.jpg
E006	LM_FP719	Poplar River (tributary)	6/16/2012	48.461778	-105.249643	1	1	5	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP719.jpg
D006	LM_FP720	Give Out Morgan Creek	6/16/2012	48.490113	-105.296241	1	1	23	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP720.jpg
B006	LM_FP722	Poplar River	6/16/2012	48.577601	-105.374268	1	1	3	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP722.jpg
E006	LM_FP723	Line Coulee	6/16/2012	48.630410	-105.376682	1	0	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP723.jpg
WEE MMA	LM_FP724	Wetland	6/16/2012	48.592196	-105.180416	1	0	12	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP724.jpg
WEE MMA	LM_FP725	Pond near Medicine Lake	6/16/2012	48.483534	-104.455875	1	0	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP725.jpg
B006	LM_FP726	Big Muddy Creek	6/17/2012	48.215724	-104.688946	1	1	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP726.jpg

AES code	site_code	Stream	Date Visit	Latitude	Longitude	Water Present	Fish Present	Macroinvert Pres/Taxa	Photo Link
									Surveys/Aquatic Site photos/LM_FP726.jpg
E006	LM_FP727	Lone Tree Creek	6/17/2012	48.215752	-104.735641	0	0	0	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP727.jpg
C006	LM_FP728	Lake Creek	6/17/2012	48.253782	-104.754665	1	1	33	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP728.jpg
C006	LM_FP730	Tule Creek	6/17/2012	48.129684	-105.418537	1	1	5	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP730.jpg
C006	LM_FP731	Tule Creek #2	6/17/2012	48.182891	-105.496063	1	1	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP731.jpg
E006	LM_FP733	Chelsea Creek	6/17/2012	48.282167	-105.473488	1	0	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP733.jpg
E006	LM_FP734	Chelsea Creek	6/17/2012	48.302330	-105.482166	1	0	0	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP734.jpg
E006	LM_FP735	Tule Creek (trib)	6/17/2012	48.215521	-105.499610	1	1	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP735.jpg
E006	LM_FP736	Tule Creek (trib)	6/17/2012	48.215139	-105.499599	1	0	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP736.jpg
C006	LM_FP738	Tule Creek #3	6/17/2012	48.214405	-105.508904	1	1	5	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP738.jpg
E006	LM_FP739	Tule Creek (dry trib)	6/17/2012	48.215538	-105.531839	0	0	0	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP739.jpg
E006	LM_FP740	Little Wolf Creek (dry trib)	6/18/2012	48.215448	-105.640800	0	0	0	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP740.jpg
E006	LM_FP741	Little Wolf Creek (dry trib)	6/18/2012	48.215459	-105.657877	0	0	0	no photo
E006	LM_FP742	Little Wolf Creek (dry trib)	6/18/2012	48.209806	-105.677786	0	0	0	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP742.jpg
D006	LM_FP743	Little Wolf Creek #3	6/18/2012	48.176685	-105.647061	1	1	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP743_up.jpg
D006	LM_FP744	Little Wolf Creek #2	6/18/2012	48.167024	-105.647046	1	1	10	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP744.jpg
C006	LM_FP745	Little Wolf Creek #1	6/18/2012	48.105294	-105.603865	1	1	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP745.jpg
D006	LM_FP746	Little Wolf Creek #4	6/18/2012	48.134271	-105.610726	1	1	10	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP746.jpg
C006	LM_FP748	Police Creek	6/25/2012	48.591072	-105.511092	1	1	27; 11 Odonata	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP748_dn.jpg
WEE MMA	LM_FP750	Wetland (drained)	6/25/2012	48.689330	-105.606053	0	0	0	no photo
C006	LM_FP751	Police Creek #2	6/25/2012	48.679100	-105.641201	1	1	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP751.jpg
C006	LM_FP752	West Fork Poplar #1	6/26/2012	48.695747	-105.830832	1	1	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic Site photos/LM_FP752_up.jpg

D006	LM_FP753	Hell Coulee	6/26/2012	48.650152	-105.911861	1	1	24; 8 Odonata and 8 Mollusks	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP753.jpg
AES_code	site_code	Stream	Date Visit	Latitude	Longitude	Water Present	Fish Present	Macroinvert Pres/Taxa	Photo Link
D006	LM_FP754	Snow Coulee	6/26/2012	48.606862	-106.260502	1	1	46; 8 Odonata, 10 Mollusks	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP754.jpg
D006	LM_FP756	East Fork Porcupine Creek	6/26/2012	48.551065	-106.089770	1	1	5	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP756.jpg
D006	LM_FP757	East Fork Little Porcupine Creek	6/26/2012	48.550989	-106.090031	1	1	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP757.jpg
D006	LM_FP758	Oil Rig Coulee	6/26/2012	48.490880	-106.000060	1	maybe, unable to sample	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP758.jpg
S005	LM_FP760	Spring Creek	6/26/2012	48.407157	-106.118176	1	0	41	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP760.jpg
D006	LM_FP761	E. Fork Porcupine Creek (trib)	6/26/2012	48.407302	-106.293266	1	1	21; 10 Odonata	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP761.jpg
E006	LM_FP762	E. Fork Porcupine Creek (trib)	6/26/2012	48.413219	-106.344313	1	0	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP762.jpg
C006	LM_FP763	East Fork Porcupine Creek	6/26/2012	48.421555	-106.345647	1	yes, unable to sample	1	http://mtnhp.org/ThumbsPlus/Zoo/Projects/Fort_Peck_Baseline_Surveys/Aquatic_Site_photos/LM_FP763.jpg

APPENDIX 4. MACROINVERTEBRATES FOUND DURING AQUATIC SITE SURVEYS

Appendix 4. Checklist of macroinvertebrate species and numbers reported from the Fort Peck Indian Reservation area during the 2012 baseline surveys (see Figure 1). Bolded species had the highest occupancy of sites. Shaded species are Montana Species of Concern. * = Species rarely collected with few state records.

Order/Class	Species	Sites Detected	Total Individuals	% Total Individuals
Crustaceans (Amphipoda/Crayfish)	<i>Gammarus lacustris</i>	6	474	3.5
	<i>Hyalella azteca</i>	13	1938	14.1
	<i>Orconectes virilis</i>	9	183	1.3
	Ostracoda	7	78	0.6
Acari (water mites)	<i>Hydrachna</i>	2	34	0.2
	<i>Hydrophantes</i>	1	2	0.0
	<i>Hydrovolzia</i>	1	5	0.0
	<i>Lebertia</i>	1	1	0.0
	<i>Piona</i>	1	1	0.0
	<i>Protzia</i>	2	35	0.3
Coleoptera (Beetles)	<i>Acilius</i>	1	1	0.0
	<i>Agabus</i>	9	76	0.6
	<i>Berosus</i>	8	253	1.8
	<i>Colymbetes</i>	4	35	0.3
	<i>Coptotomus longulus</i>	10	34	0.2
	<i>Cybister fimbriolatus</i>	1	2	0.0
	<i>Cymatia americana</i>	1	4	0.0
	<i>Dineutus</i>	1	1	0.0
	<i>Dubiraphia vittata</i>	3	179	1.3
	<i>Dytiscus fasciventris</i>	2	3	0.0
	<i>Enochrus</i>	5	22	0.2
	<i>Graphoderus occidentalis*</i>	3	3	0.0
	<i>Gyrinus affinis</i>	2	2	0.0
	<i>Haliplus</i>	6	39	0.3
	<i>Helophorus</i>	3	6	0.0
	<i>Hydrobius</i>	5	35	0.3
	<i>Hydrophilus</i>	1	1	0.0
	<i>Hydroporus</i>	6	108	0.8
	<i>Hygrotus</i>	3	24	0.2
	<i>Ilybius</i>	4	13	0.1
	<i>Laccobius</i>	1	8	0.1
	<i>Laccophilus maculosus</i>	7	21	0.2
	<i>Neoporus</i>	1	8	0.1
	<i>Ochthebius</i>	1	2	0.0
	<i>Oreodytes</i>	5	72	0.5
	<i>Peltodytes</i>	7	28	0.2
	<i>Rhantus</i>	1	4	0.0
	<i>Rhantus binotatus*</i>	1	1	0.0
	<i>Rhantus sericans</i>	10	22	0.2
	<i>Tropisternus lateralis</i>	4	11	0.1

Appendix 4. continued.

Order/Class	Species	Sites Detected	Total Individuals	% Total Individuals
Diptera (True Flies)	<i>Bezzia</i>	4	50	0.4
	<i>Chaoborus</i>	1	2	0.0
	<i>Chironomus</i>	11	353	2.6
	<i>Chrysops</i>	1	8	0.1
	<i>Cladopelma</i>	1	3	0.0
	<i>Cladotanytarsus</i>	1	3	0.0
	<i>Corynoneura</i>	3	7	0.1
	<i>Cricotopus</i>	1	1	0.0
	<i>Cricotopus bicinctus</i>	5	253	1.8
	<i>Cricotopus trifasciata</i>	1	4	0.0
	<i>Cryptochironomus</i>	4	39	0.3
	<i>Culicoides</i>	2	10	0.1
	<i>Dasyhelea</i>	1	30	0.2
	<i>Dicranota</i>	1	8	0.1
	<i>Dicrotendipes</i>	3	38	0.3
	<i>Ephydra</i>	1	5	0.0
	<i>Glyptotendipes</i>	5	55	0.4
	<i>Limnophila</i>	1	2	0.0
	<i>Limnopus</i>	1	1	0.0
	<i>Odontomyia</i>	3	5	0.0
	<i>Parachironomus</i>	3	23	0.2
	<i>Paracladopelma</i>	1	16	0.1
	<i>Paramerina</i>	1	5	0.0
	<i>Paratanytarsus</i>	1	5	0.0
	<i>Pentaneura</i>	2	15	0.1
	<i>Polypedilum</i>	4	23	0.2
	<i>Probezzia</i>	3	41	0.3
	<i>Procladius</i>	7	165	1.2
	<i>Psectrocladius</i>	10	612	4.5
	<i>Pseudochironomus</i>	1	4	0.0
	<i>Radotanypus</i>	2	9	0.1
	<i>Simulium</i>	6	441	3.2
	<i>Stratiomys</i>	2	6	0.0
	<i>Tabanus</i>	3	7	0.1
	<i>Tanytarsus</i>	4	50	0.4
	<i>Thiemanniella</i>	1	8	0.1
	<i>Thienemanniella</i>	2	8	0.1
	<i>Thienemannimyia gr.</i>	2	15	0.1

Appendix 4. continued.

Order/Class	Species	Sites Detected	Total Individuals	% Total Individuals
Ephemeroptera (Mayflies)	<i>Acentrella insignificans</i>	1	20	0.1
	<i>Acentrella turbida</i>	1	30	0.2
	<i>Anaetris eximia</i>	2	3	0.0
	<i>Baetis flavistriga</i>	1	36	0.3
	<i>Baetis intercalaris</i>	1	105	0.8
	<i>Caenis amica</i>	2	10	0.1
	<i>Caenis latipennis</i>	7	913	6.7
	<i>Caenis youngi</i>	2	34	0.2
	<i>Callibaetis</i>	3	22	0.2
	<i>Callibaetis fluctuans</i>	7	34	0.2
	<i>Centroptilum bifurcatum*</i>	1	19	0.1
	<i>Centroptilum conturbatum*</i>	1	2	0.0
	<i>Ephemerella excrucians</i>	2	13	0.1
	<i>Ephoron album</i>	1	12	0.1
	<i>Fallceon quilleri</i>	1	4	0.0
	<i>Heptagenia elegantula*</i>	2	10	0.1
	<i>Hexagenia limbata</i>	3	12	0.1
	<i>Isonychia campestris</i>	2	106	0.8
	<i>Leucrocuta maculipennis</i>	1	2	0.0
	<i>Maccaffertium terminatum</i>	1	110	0.8
	<i>Plauditus punctiventris</i>	1	4	0.0
	<i>Pseudocloeon propinquum</i>	1	20	0.1
	<i>Tricorythodes minutus</i>	2	8	0.1
Hemiptera (True Bugs)	<i>Corisella</i>	2	7	0.1
	<i>Corixidae</i>	9	501	3.7
	<i>Graptocorixa</i>	1	4	0.0
	<i>Hesperocorixa</i>	1	1	0.0
	<i>Neoplea</i>	1	3	0.0
	<i>Notonecta</i>	4	6	0.0
	<i>Sigara</i>	1	2	0.0
Clitellata (Leeches/Worms)	<i>Erpobdella punctata</i>	9	89	0.7
	<i>Glossosiphonia complanata</i>	5	38	0.3
	<i>Helobdella stagnalis</i>	4	61	0.4
	<i>Mooreobdella fervida</i>	8	37	0.3
	<i>Placobdella ornata*</i>	1	8	0.1
	<i>Theromyzon</i>	1	2	0.0
	Tubificidae	5	20	0.1

Appendix 4. continued.

Order/Class	Species	Sites Detected	Total Individuals	% Total Individuals
Mollusca (Snails/Clams/Mussels)	<i>Amnicola limosa</i>	1	16	0.1
	<i>Aplexa elongate*</i>	2	2	0.0
	<i>Fossaria humilis</i>	10	114	0.8
	<i>Fossaria obrussa</i>	1	2	0.0
	<i>Gyraulus circumstriatus</i>	9	206	1.5
	<i>Gyraulus parvus</i>	8	128	0.9
	<i>Helisoma anceps</i>	7	24	0.2
	<i>Lymnaea stagnalis</i>	4	105	0.8
	<i>Menetus opercularis*</i>	3	16	0.1
	<i>Musculium</i>	1	48	0.4
	<i>Musculium lacustre</i>	2	11	0.1
	<i>Physella acuta</i>	28	991	7.3
	<i>Physella gyrina</i>	8	110	0.8
	<i>Pisidium casertanum</i>	4	29	0.2
	<i>Planorbella trivolvis</i>	6	35	0.3
	<i>Promenetus exacuous</i>	1	3	0.0
	<i>Pseudosuccinea columella</i>	2	5	0.0
	<i>Pyganodon grandis</i>	4	5	0.0
	<i>Sphaerium</i>	3	16	0.1
	<i>Stagnicola caperata</i>	14	492	3.6
<i>Stagnicola elodes</i>	3	53	0.4	
<i>Stagnicola palustris</i>	8	381	2.8	
<i>Valvata humeralis</i>	3	13	0.1	
<i>Valvata sincera</i>	1	1	0.0	
Odonata (Dragonflies/Damselflies)	<i>Aeshna interrupta</i>	2	2	0.0
	<i>Aeshna palmata</i>	9	17	0.1
	<i>Amphiagrion abbreviatum</i>	4	19	0.1
	<i>Anax junius</i>	2	2	0.0
	<i>Arigomphus cornutus</i>	1	2	0.0
	<i>Calopteryx aequabilis</i>	2	4	0.0
	<i>Coenagrion angulatum</i>	7	17	0.1
	<i>Enallagma</i>	3	73	0.5
	<i>Enallagma anna</i>	2	6	0.0
	<i>Enallagma annexum</i>	28	389	2.8

Appendix 4. continued.

Order/Class	Species	Sites Detected	Total Individuals	% Total Individuals
Odonata (Dragonflies/Damselflies)	<i>Enallagma antennatum*</i>	1	2	0.0
	<i>Enallagma boreale</i>	4	10	0.1
	<i>Enallagma civile</i>	5	17	0.1
	<i>Enallagma clausum</i>	6	45	0.3
	<i>Enallagma ebrium</i>	9	16	0.1
	<i>Enallagma hageni</i>	2	2	0.0
	<i>Gomphus externus</i>	1	1	0.0
	<i>Hetaerina americana</i>	5	10	0.1
	<i>Ischnura perparva</i>	2	10	0.1
	<i>Ischnura verticalis</i>	25	164	1.2
	<i>Lestes</i>	4	91	0.7
	<i>Lestes disjunctus</i>	16	78	0.6
	<i>Lestes dryas</i>	2	49	0.4
	<i>Leucorrhinia intacta</i>	8	22	0.2
	<i>Libellula forensis</i>	2	4	0.0
	<i>Libellula pulchella</i>	19	61	0.4
	<i>Plathemis lydia</i>	1	2	0.0
	<i>Stylurus intricatus*</i>	1	1	0.0
	<i>Sympetrum</i>	4	38	0.3
	<i>Sympetrum corruptum</i>	10	18	0.1
	<i>Sympetrum internum</i>	14	43	0.3
<i>Sympetrum madidum*</i>	1	2	0.0	
<i>Sympetrum obtrusum</i>	2	2	0.0	
Plecoptera (Stoneflies)	<i>Isoperla longiseta</i>	2	5	0.0
	<i>Taenionema pacificum</i>	2	6	0.0
Trichoptera (Caddisflies)	<i>Anabolia bimaculata*</i>	2	11	0.1
	<i>Brachycentrus occidentalis</i>	1	1	0.0
	<i>Cheumatopsyche</i>	5	736	5.4
	<i>Helicopsyche borealis</i>	3	130	1.0
	<i>Hydropsyche bidens*</i>	2	2	0.0
	<i>Hydropsyche morosa</i>	1	9	0.1
	<i>Hydropsyche orris*</i>	2	2	0.0
	<i>Hydroptila</i>	1	4	0.0
	<i>Limnephilus</i>	5	348	2.5
	<i>Limnephilus externus</i>	4	13	0.1
	<i>Mystacides alafimbriatus</i>	1	2	0.0
	<i>Nectopsyche candida</i>	1	1	0.0
	<i>Ochrotrichia</i>	1	24	0.2
	<i>Oecetis avara</i>	1	1	0.0
	<i>Polycentropus</i>	2	9	0.1

APPENDIX 5. LENTIC AMPHIBIAN AND REPTILE SURVEY RESULTS

Appendix 5. Amphibian and reptile survey sites on the Fort Peck Indian Reservation during summer 2012 (see Figure 3). Bolded species are Montana Species of Concern.

Site	Date	County	Coordinates	Species (number) ¹
1	7 Jun	Roosevelt	48.13189, 105.33831	PSMA (1), THRA (1)
2	7 Jun	Roosevelt	48.13351, 105.34467	PSMA (1)
3	9 Jun	Roosevelt	48.11377, 105.12474	PSMA (<20L), LIPI (4), THRA (2)
4	14 Jun	Roosevelt	48.12196, 105.20078	No detections
5	14 Jun	Roosevelt	48.17878, 105.17329	ANWO (2)
6	15 Jun	Roosevelt	T28N R48E, Sec?	No detections
7	16 Jun	Roosevelt	48.10341, 105.56723	No detections
8	16 Jun	Roosevelt	48.24425, 105.54051	PSMA (<20L)
9	16 Jun	Roosevelt	48.24186, 105.53908	PSMA (<10L), LIPI (1), CHPI (1)
10	16 Jun	Roosevelt	48.22970, 105.27567	No detections
11	17 Jun	Roosevelt	48.13478, 105.29475	PSMA (1)
12	17 Jun	Roosevelt	49.11040, 105.13823	ANWO (<100L), LIPI (1)
13	17 Jun	Roosevelt	48.11502, 104.97166	ANWO (<100L), PSMA (<10,000L), THRA (1)
14	17 Jun	Roosevelt	48.22895, 105.10863	AMMA (<110L), LIPI (10)
15	20 Jun	Roosevelt	48.54492, 105.40462	LIPI (<120L, 3)
16	20 Jun	Roosevelt	48.54301, 105.40356	LIPI (10)
17	20 Jun	Roosevelt	48.54710, 105.40269	THRA (2)
18	20 Jun	Roosevelt	48.23783, 105.11067	PSMA (<10L), LIPI (<10L)
19	21 Jun	Roosevelt	48.21282, 104.68543	PSMA (<10L, 1)
20	21 Jun	Roosevelt	48.19699, 104.79596	AMMA (<100L)
21	21 Jun	Roosevelt	48.24879, 104.93224	PSMA (<100L)
22	21 Jun	Roosevelt	48.24920, 104.93425	No detections
23	22 Jun	Roosevelt	48.11301, 105.69183	LIPI (1)
24	22 Jun	Roosevelt	48.11233, 105.69530	No detections
25	22 Jun	Roosevelt	48.31675, 105.78716	PSMA (<100L, 10)
26	22 Jun	Roosevelt	48.31864, 105.71745	PSMA (<100L, 20)
27	27 Jun	Roosevelt	48.05578, 105.73642	PSMA (<100L, 5)
28	27 Jun	Roosevelt	48.05943, 105.74692	PSMA (<100L, 1), LIPI (4)
29	27 Jun	Roosevelt	48.06693, 105.75802	PSMA (<100L)
30	27 Jun	Valley	48.28138, 106.19501	ANWO (<10L), PSMA (<100L), LIPI (2)
31	27 Jun	Valley	48.08197, 106.19508	No detections
32	28 Jun	Valley	48.27707, 105.85448	LIPI (<10L), CHPI (1)
33	28 Jun	Valley	48.27790, 105.85392	ANWO (<10L), LIPI (<100L, 1)
34	28 Jun	Valley	48.27768, 105.85268	AMMA (<110L), LIPI (<10L)
35	28 Jun	Valley	48.32554, 106.01517	PSMA (1)
36	29 Jun	Roosevelt	48.48769, 105.54350	PSMA (<10L), LIPI (2)
37	29 Jun	Roosevelt	48.49300, 105.55360	ANWO (<100L), PSMA (<100L)
38	29 Jun	Roosevelt	48.49385, 105.52663	PSMA (<10L, 1)
39	30 Jun	Roosevelt	48.46157, 105.61822	No detections
40	30 Jun	Roosevelt	48.45407, 105.68060	No detections
41	30 Jun	Roosevelt	48.45053, 105.36712	No detections
42	30 Jun	Valley	48.47026, 105.91332	PSMA (<100L, 1)
43	30 Jun	Valley	48.48368, 105.91319	PSMA (1)
44	1 Jul	Daniels	48.62796, 105.88609	No detections
45	1 Jul	Daniels	48.62998, 105.88888	AMMA (<110L)

46	1 Jul	Valley	48.55198, 106.07133	PSMA (<10L)
47	1 Jul	Valley	48.55103, 106.09002	PSMA (<100L), LIPI (1)
48	3 Jul	Valley	48.55303, 106.24626	PSMA (<1,000L)
49	3 Jul	Valley	48.55428, 106.26710	PSMA (<100L)
50	3 Jul	Valley	48.47163, 106.24071	PSMA (<100L)
51	3 Jul	Valley	48.46243, 106.24619	CHPI (1)
52	3 Jul	Valley	48.46160, 106.24558	PSMA (<1,000L)
53	5 Jul	Valley	48.15958, 106.10583	No detections
54	5 Jul	Valley	48.15739, 106.10745	AMMA (<10L), SPBO (<100L), PSMA (<200L, 4)
55	5 Jul	Valley	48.15283, 106.11124	LIPI (4)
56	5 Jul	Valley	48.14185, 106.33878	No detections
57	5 Jul	Valley	48.14194, 106.34425	LIPI (3)

1 Species codes: AMMA (*Ambystoma mavortium*, Barred Tiger Salamander), **SPBO** (*Spea bombifrons*, Plains Spadefoot), ANWO (*Anaxyrus woodhousii*, Woodhouse's Toad), PSMA (*Pseudacris maculata*, Boreal Chorus Frog), LIPI (*Lithobates pipiens*, Northern Leopard Frog), CHPI (*Chrysemys picta*, Painted Turtle), THRA (*Thamnophis radix*, Plains Gartersnake).

Number code: L = larvae, numbers without an "L" are juveniles or adults.

**APPENDIX 6. CHECKLIST OF BIRDS OBSERVED ON THE
FORT PECK INDIAN RESERVATION**

Appendix 6. Bird species detected within the boundary of the Fort Peck Indian Reservation during summer 2012. List follows current American Ornithologist’s Union taxonomic sequence. Bolded species are Montana Species of Concern.

Canada Goose	Wilson’s Snipe	Yellow-breasted Chat
Gadwall	Wilson’s Phalarope	Spotted Towhee
American Wigeon	Red-necked Phalarope	Chipping Sparrow
Mallard	Franklin’s Gull	Clay-colored Sparrow
Blue-winged Teal	Ring-billed Gull	Brewer’s Sparrow
Northern Shoveler	California Gull	Vesper Sparrow
Northern Pintail	Rock Pigeon	Lark Sparrow
Green-winged Teal	Eurasian Collared-Dove	Lark Bunting
Redhead	Mourning Dove	Savannah Sparrow
Lesser Scaup	Common Nighthawk	Grasshopper Sparrow
Ruddy Duck	Red-headed Woodpecker	Baird’s Sparrow
Gray Partridge	Hairy Woodpecker	Nelson’s Sparrow
Ring-necked Pheasant	Northern Flicker	Song Sparrow
Sharp-tailed Grouse	Western Wood-Pewee	Lazuli Bunting
Pied-billed Grebe	Willow Flycatcher	Bobolink
Horned Grebe	Least Flycatcher	Red-winged Blackbird
Eared Grebe	Say’s Phoebe	Western Meadowlark
American White Pelican	Western Kingbird	Yellow-headed Blackbird
Black-crowned Night-Heron	Eastern Kingbird	Brewer’s Blackbird
Turkey Vulture	Loggerhead Shrike	Common Grackle
Osprey	Warbling Vireo	Brown-headed Cowbird
Northern Harrier	Red-eyed Vireo	Orchard Oriole
Swainson’s Hawk	Blue Jay	Bullock’s Oriole
Red-tailed Hawk	Black-billed Magpie	Baltimore Oriole
Ferruginous Hawk	American Crow	American Goldfinch
Golden Eagle	Common Raven	House Sparrow
American Kestrel	Horned Lark	
Prairie Falcon	Tree Swallow	
Sora	Bank Swallow	
American Coot	Cliff Swallow	
Killdeer	Barn Swallow	
American Avocet	White-breasted Nuthatch	
Spotted Sandpiper	House Wren	
Willet	American Robin	
Upland Sandpiper	Gray Catbird	
Long-billed Curlew	Brown Thrasher	
Marbled Godwit	European Starling	
Sanderling	Sprague’s Pipit	
Semipalmated Sandpiper	Chestnut-collared Longspur	
White-rumped Sandpiper	McCown’s Longspur	
Pectoral Sandpiper	Common Yellowthroat	
Stilt Sandpiper	Yellow Warbler	

APPENDIX 7. BIRD ROAD TRANSECT SURVEY RESULTS

Appendix 7. Results for bird point count road transects (see Figure 4) conducted on the Fort Peck Indian Reservation during summer 2012. Transects consist of 10 point counts about 0.5 miles apart. Species lists are for entire transects, but only for individuals detected within 100 m of points. Bolded species are Montana Species of Concern.

Transect	Date	County (start)	Start Coordinates	End Coordinates	Species ¹
1	1 Jun	Valley	48.60681 106.27210	48.59240 106.34836	AMGO, AMRO, BAIS , BARS, BHCO, BRBL, BRTH, CHSP, CCLO , EAKI, EUST, HOLA, HOSP, LARB, MAGO, MALL, MCLO , MODO, RWBL, SAPH, SAVS, VESP, WEKI, WEME, WIFL, WISN
2	1 Jun	Valley	48.55188 106.15694	48.55179 106.05752	BAIS , BARS, BHCO, BRBL, CCLO , CCSP, CLSW, EAKI, GRSP, HOLA, KILL, LARB, MALL, NOHA, RWBL, SAVS, SORA, SPPI , VESP, WEME, WIPH, WISN
3	1 Jun	Daniels	48.57057 105.91194	48.50501 105.91343	AMGO, AMRO, BAIS , BARS, BHCO, BRBL, BRTH, CCLO , CCSP, CLSW, GRSP, HOLA, LOSH , MODO, NOHA, SAVS, SPPI , STGR, SWHA, VESP, WEKI, WEME, WIPH
4	29 May	Daniels	48.59943 105.59547	48.59220 105.50837	AMWI, BARS, BHCO, BRBL, BRTH, CCLO , COGR, EAKI, GRSP, HOLA, KILL, LARB, MALL, MCLO , MODO, NOHA, RPHE, RWBL, UPSA, WEME, WIPH, WISN
5	29 May	Daniels	48.57769 105.49706	48.57772 105.39937	AMRO, BAIS , BARS, BHCO, BRBL, BRTH, CCLO , EAKI, GRCA, GRPA, GRSP, HOLA, HOSP, KILL, LARB, LASP, MCLO , MODO, SAPH, SPPI , VESP, WEME, WISN, YWAR
6	29 May	Daniels	48.56313 105.2328	48.54878 105.15643	BAIS , BAOR, BARS, BHCO, BRBL, CCLO , CCSP, COGR, EAGR, GRPA, GRSP, HOLA, MCLO , MODO, NOPI, NSHO, RPHE, RUDU, RWBL, SAVS, SPPI , VESP, WEME
7	30 May	Sheridan	48.57762 104.80640	48.56321 104.88615	AMGO, BAIS , BARS, BHCO, BRBL, CCSP, FRGU , GRSP, HOLA, RPHE, SAVS, SPPI , UPSA, VESP, WEME
8	30 May	Sheridan	48.57758 104.57953	48.60638 104.52603	AMWI, BAIS , BHCO, BRBL, CAGO, CCLO , CCSP, CLSW, GRSP, HOLA, KILL, MODO, NOHA, RBGU, RPHE, RWBL, SAVS, SPPI , VESP, WEME, WIFL, YWAR
9	2 Jun	Valley	48.32063 106.37914	48.26278 106.36805	AMKE, BHCO, BRTH, BUOR, CCLO , GRSP, HOLA, KILL, LARB, LBCU , LOSH , MAGO, MALL, MODO, OROR, RWBL, SAVS, SPPI , VESP, WEKI, WEME, WILL, YWAR
10	1 Jun	Valley	48.40722 106.14796	48.40537 106.05051	AMGO, BARS, BHCO, BRBL, BRTH, CCLO , EAKI, HOLA, LARB, MODO, RPHE, RWBL, VESP, WEME, WISN, YWAR
11	31 May	Roosevelt	48.32748 105.78286	48.38406 105.80468	BAIS , BARS, BHCO, BRBL, CCLO , COGR, GRSP, HOLA, LARB, LBCU , MAGO, MCLO , SAVS, SPPI , VESP, WEME

12	31 May	Roosevelt	48.30234 105.67438	48.30237 105.57127	BAIS , BARS, BHCO, BOBO , BRBL, BRSP , CCLO , CCSP, EAKI, GRSP, HOLA, LARB, MODO, RPHE, SAPH, SAVS, UPSA, VESP, WEME, YWAR
13	29 May	Roosevelt	48.50004 105.29916	48.46171 105.24701	BAIS , BARS, BHCO, BRBL, BWTE, CAGO, CCLO , CCSP, COGR, EAKI, GRSP, HOLA, KILL, LARB, MAGO, MALL, MCLO , MODO, NOHA, NSHO, RWBL, SAVS, SORA, WEME, WIPH
14	29 May	Roosevelt	48.27375 105.11976	48.27989 105.21341	AMGO, AMRO, BARS, BHCO, BOBO , BRBL, BRTH, CCLO , COGR, EAKI, HOLA, KILL, LARB, MODO, ROPI, RWBL, SAVS, SPPI , VESP, WEME, YWAR
15	30 May	Roosevelt	48.43295 104.99665	48.40397 104.94236	AMGO, AMRO, BAIS , BHCO, BOBO , BRBL, BRTH, CAGO, CCLO , CCSP, CLSW, EAKI, FRGU , GRSP, HOLA, MALL, MCLO , MODO, NOHA, RBGU, RPHE, RWBL, SAVS, SPPI , UPSA, VESP, WEME, WIPH
16	30 May	Roosevelt	48.41843 104.71452	48.41841 104.61712	AMRO, BARS, BHCO, BRBL, CCLO , COGR, COYE, EAKI, FRGU , GRSP, HOLA, HOSP, MALL, MCLO , MODO, OROR, RWBL, SAVS, SORA, SWHA, WEKI, WEME
17	2 Jun	Valley	48.18938 106.24252	48.17512 106.31798	BARS, BHCO, HOLA, HOSP, LARB, MCLO , MODO, RWBL, VESP, WEKI, WEME
18	2 Jun	Valley	48.16125 106.19938	48.17501 106.28673	BARS, BHCO, BRBL, BWTE, CAGO, CCLO , COGR, EAKI, GADW, GRPA, GRSP, HOLA, LARB, MAGO, MALL, MCLO , MODO, RWBL, VESP, WEME
19	2 Jun	Valley	48.18419 105.88714	48.24876 105.89516	BAIS , BARS, BHCO, BRBL, BRSP , CAGO, CCLO , CCSP, EAKI, GRSP, HOLA, LARB, NOHA, RWBL, SAVS, SPPI , STGR, VESP, WEME
20	31 May	Roosevelt	48.21544 105.65388	48.21549 105.55626	BAIS , BARS, BHCO, BOBO , CCLO , CCSP, GRSP, HOLA, RWBL, SAVS, VESP
21	31 May	Roosevelt	48.25861 105.38707	48.23255 105.33707	AMRO, BAIS , BARS, BHCO, BOBO , BRTH, BWTE, CCLO , CCSP, GADW, GRSP, HOLA, MALL, MCLO , RPHE, RWBL, SAVS, VESP, WEME
22	30 May	Roosevelt	48.15788 105.08640	48.13901 105.18333	AMGO, AMRO, BAIS , BARS, BHCO, BOBO , BRBL, CAGO, CCLO , CLSW, COGR, EAKI, EUST, FRGU , GRSP, HOLA, KILL, LARB, MODO, NOFL, RWBL, SAVS, TRES, VESP, WEKI, WEME
23	30 May	Roosevelt	48.22287 104.93304	48.23261 104.83640	AMGO, AMRO, BARS, BHCO, BOBO , BRBL, BRTH, BWTE, CCLO , CCSP, CORA, FRGU , GADW, GRCA, GRSP, GWTL, HOLA, LARB, LEFL, MAGO, MALL, MODO, NOFL, NOPI, NSHO, NSTS , RPHE, RWBL, SAVS, SORA, WEKI, WEME, WILL, WIPH, WISN, YWAR

¹ Species codes: AMGO (American Goldfinch), AMKE (American Kestrel), AMRO (American Robin), AMWI (American Widgeon), **BAIS** (Baird's Sparrow), BAOR (Baltimore Oriole), BARS (Barn Swallow), BHCO (Brown-headed Cowbird), **BOBO** (Bobolink), BRBL (Brewer's

Blackbird), BRTH (Brown Thrasher), **BRSP** (Brewer's Sparrow), BUOR (Bullock's Oriole), BWTE (Blue-winged Teal), CAGO (Canada Goose), **CCLO** (Chestnut-collared Longspur), CCSP (Clay-colored Sparrow), CHSP (Chipping Sparrow), CLSW (Cliff Swallow), COGR (Common Grackle), CORA (Common Raven), COYE (Common Yellowthroat), EAGR (Eared Grebe), EAKI (Eastern Kingbird), EUST (European Starling), FRGU (Franklin's Gull), GADW (Gadwall), GRCA (Gray Catbird), GRPA (Gray Partridge), GRSP (Grasshopper Sparrow), GWTL (Green-winged Teal), HOLA (Horned Lark), KILL (Killdeer), HOSP (House Sparrow), LARB (Lark Bunting), LASP (Lark Sparrow), **LBCU** (Long-billed Curlew), LEFL (Least Flycatcher), **LOSH** (Loggerhead Shrike), MAGO (Marbled Godwit), MALL (Mallard), **MCLO** (McCown's Longspur), MODO (Mourning Dove), NOFL (Northern Flicker), NOHA (Northern Harrier), NOPI (Northern Pintail), NSHO (Northern Shoveler), **NSTS** (Nelson's Sparrow), OROR (Orchard Oriole), RPHE (Ring-necked Pheasant), RBGU (Ring-billed Gull), ROPI (Rock Pigeon), RUDU (Ruddy Duck), RWBL (Red-winged Blackbird), SAPH (Say's Phoebe), SAVS (Savannah Sparrow), SORA (Sora), **SPPI** (Sprague's Pipit), STGR (Sharp-tailed Grouse), SWHA (Swainson's Hawk), TRES (Tree Swallow), UPSA (Upland Sandpiper), VESP (Vesper Sparrow), WEKI (Western Kingbird), WEME (Western Meadowlark), WIFL (Willow Flycatcher), WILL (Willet), WIPH (Wilson's Phalarope), WISN (Wilson's Snipe), YWAR (Yellow Warbler).

APPENDIX 8. OFF-ROAD BIRD POINT COUNT RESULTS

Appendix 8. Results for off-road bird point count surveys (see Figure 4) conducted on the Fort Peck Indian Reservation during summer 2012. Species lists are only for individuals detected within 100 m of the point. Bolded species are Montana Species of Concern.

Point	Date	County	Coordinates	Species (number) ¹
1	25 May	Valley	48.54426, 106.30902	BAIS (2), CCLO (4), GRSP (1), HOLA (3), SPPI (1), WEME (1)
2	25 May	Valley	48.55915, 107.17300	BAIS (2), CCLO (5), HOLA (1), VESP (2)
3	25 May	Valley	48.54931, 105.91162	BAIS (2), CCLO (5)
4	29 May	Daniels	48.59144, 105.59923	BAIS (2), BHCO (1), CCLO (6), HOLA (2), MALL (1), SWHA (1), WEME (1)
5	26 May	Daniels	48.58075, 105.41807	BAIS (1), CCLO (8), HOLA (2), MALL (1), MCLO (1)
6	29 May	Roosevelt	48.54975, 105.23775	BAIS (1), BHCO (1), CCLO (2), GRSP (2), HOLA (1), SPPI (1), WEME (1)
7	29 May	Daniels	48.57138, 104.97337	BOBO (3), CCLO (1), HOLA (1), SAVS (3), WEME (1)
8	30 May	Sheridan	48.60401, 104.62400	BAIS (2), CCSP (1), GRSP (2), HOLA (2), SAVS (1), WEME (1)
9	25 May	Valley	48.40618, 106.29100	BHCO (1), CCLO (4), HOLA (5), WEME (3)
10	25 May	Valley	48.47356, 106.23656	BAIS (1), BRBL (2), CCLO (3), HOLA (2), VESP (1), WEME (2)
11	25 May	Roosevelt	48.32858, 105.77080	BAIS (1), CCLO (5), HOLA (1), LARB (1), WEME (1)
12	25 May	Roosevelt	48.42273, 105.71983	BAIS (3), BRBL (1), CCLO (4), EAKI (1), GRSP (1), SPPI (1)
15	30 May	Roosevelt	48.42131, 104.92747	BAIS (1), BHCO (1), CCLO (3), HOLA (2), NOHA (1), SPPI (2), VESP (1), WEME (1)
16	31 May	Sheridan	48.47855, 104.63129	CCLO (1), CCSP (1), EAKI (1), GRSP (1), HOLA (2), SPPI (1), WEME (1)
17	25 May	Valley	48.16702, 106.28114	BARS (1), CAGO (1), CCLO (2), HOLA (6), MALL (1)
18	25 May	Valley	48.19602, 106.15453	BAIS (2), BARS (1), BHCO (1), CCLO (5), HOLA (4), LARB (2), RWBL (1), VESP (1), WEME (2)
19	25 May	Valley	48.16421, 105.94955	BARS (4), BHCO (5), BRSP (1), CCLO (4), LARB (4), NOHA (1), RWBL (2), VESP (1), WEME (1)
20	31 May	Roosevelt	48.22295, 105.70705	CCLO (5), HOLA (3), VESP (1), WEME (1)
21	31 May	Roosevelt	48.13908, 105.49448	CCLO (5), GRSP (1), HOLA (3), WEME (1)

¹ Species codes: **BAIS** (Baird's Sparrow), BARS (Barn Swallow), BHCO (Brown-headed Cowbird), **BOBO** (Bobolink), BRBL (Brewer's Blackbird), **BRSP** (Brewer's Sparrow), CAGO (Canada Goose), CCSP (Clay-colored Sparrow), **CCLO** (Chestnut-collared Longspur), EAKI (Eastern Kingbird), GRSP (Grasshopper Sparrow), HOLA (Horned Lark), LARB (Lark Bunting), MALL (Mallard), **MCLO** (McCown's Longspur), NOHA (Northern Harrier), RWBL (Red-winged Blackbird), SAVS (Savannah Sparrow), **SPPI** (Sprague's Pipit), SWHA (Swainson's Hawk), VESP (Vesper Sparrow), WEME (Western Meadowlark).

APPENDIX 9. BIRD NESTS LOCATED INCIDENTAL TO OTHER SURVEY WORK

Appendix 9. Bird nests found incidental to other surveys during 2012 on the Fort Peck Indian Reservation. Bolded species are Montana Species of Concern.

Species	Date	Contents	Coordinates	County	Observer
Mourning Dove	29 Jul	2 eggs	48.14744, 106.35693	Valley	P. Hendricks
Mourning Dove	31 Jul	2 nestlings	48.13650, 104.93002	Roosevelt	P. Hendricks
Mourning Dove	19 Aug	2 eggs	48.27568, 105.09106	Roosevelt	P. Hendricks
Sprague's Pipit	27 May	4 nestlings	48.57928, 105.41833	Daniels	P. Hendricks
Chestnut-collared Longspur	25 May	6 eggs	48.32818, 105.77097	Roosevelt	P. Hendricks
Chestnut-collared Longspur	28 May	3 nestlings	48.57994, 105.42030	Daniels	P. Hendricks
Chestnut-collared Longspur	30 May	5 nestlings	48.42046, 104.92714	Roosevelt	P. Hendricks
Chestnut-collared Longspur	31 May	4 eggs	48.22286, 105.70791	Roosevelt	P. Hendricks

APPENDIX 10. COUNTS OF BIRD SPECIES AT WETLAND SITES

Appendix 10. Opportunistic surveys for wetland birds on the Fort Peck Indian Reservation during summer 2012. Bolded species are Montana Species of Concern.

Date	County	Coordinates	Description	Species (number) ¹
25 May	Roosevelt	48.54728 105.42928	Reservoir near W Fork Poplar R	BHCO (-), CAGU (-), CLSW (-), GADW (-), MAGO (-), MALL (-)
25 May	Roosevelt	48.58668 105.42351	Small cattail/cottonwood/willow wetland	AMRO (1), EAKI (1), GADW (1), MALL (2), RWBL (6)
25 May	Roosevelt	48.49070 105.28821	“Wetland 1”	BWTE (5), KILL (1), MAGO (1), RWBL (3), WILL (2), WISN (2), YHBL (3)
25 May	Roosevelt	48.40844 105.20686	“Wetland 2”	BWTW (2), GADW (2), MALL (2)
25 May	Roosevelt	48.54932 105.24184	“Wetland”	BWTE (3), MALL (2), RWBL (1)
26 May	Roosevelt	48.25579 105.21346	“Wetland 3”	BWTE (5), KILL (6), MALL (2), MAGO (2), NOPI (1), RNPH (5), RWBL (1), SAND (4), SESA (7), WILL (1), WIPH (15)
26 May	Roosevelt	48.56318 105.23347	“Wetlands”	GADW (2), LESC (2), MALL (3), LOSH (1), RWBL (4), WIPH (5)
26 May	Roosevelt	48.24204 104.93129	McIlwain Lake	AMAV (5), AMWI (4), BCNH (1), BWTE (1), FRGU (3), GADW (30), GWTL (4), HOGH (8), LESC (2), MALL (5), NOPI (3), NSHO (18), REDH (9), RUDU (8), WIPH (14)
27 May	Roosevelt	48.23026 104.88981	“Wetland 4”	BCNH (1), BWTE (2), GADW (2), GWTL (1), MALL (2), NSTS (1), NOPI (3), NSHO (2), REDH (1), RWBL (10), SORA (1), WIPH (1)
27 May	Valley	48.04502 106.01099	Frazer wetland	AMAV (2), BARS (1), BASW (1), BRBL (3), BWTE (4), , EUST (1), GADW (2), KILL (2), MALL (3), OSPR (2), PESA (1), PRFA (1), RBGU (1), SESA (9), SPSA (2), STSA (4), TRES (40), WEKI (2), WRSA (1), WIPH (8)
28 May	Roosevelt	48.13224 105.33828	Chelsea slough	AMCO (1), AMWI (2), BARS (2), BWTE (2), CLSW (25), FRGU (4), GADW (2), KILL (1), MALL (2), NSHO (1), RWBL (10), SPSA (3), TRES (30), WIPH (2), YHBL (2)
28 May	Valley	48.09525 105.88735	Oswego Creek pond	AMCO (5), BWTE (4), CLSW (1), EAKI (2), LOSH (1), MALL (11), MODO (1), NOPI (2), NSHO (1), PBGR (1), RWBL (3), TRES (2), WILL (2), WIPH (5)

28 May	Valley	48.05947 105.99460	Frazer-Richland wetland	AMCO (10), CAGO (13), CLSW (2), GADW (2), KILL (1), MALL (3), RUDU (2), YHBL (1)
28 May	Valley	48.29579 105.99980	wetland	AMCO (5), CAGO (1), EAGR (2), GADW (4), LESC (3), NSHO (4), REDH (16)
28 May	Valley	48.33920 105.99987	wetland	BWTE (1), COGR (7), GADW (2), GWTL (1), KILL (2), NOPI (1), SAPH (1), WIPH (12)

¹ Species codes: AMAV (American Avocet), AMCO (American Coot), AMRO (American Robin), AMWI (American Widgeon), BARS (Barn Swallow), BASW (Bank Swallow), **BCNH** (Black-crowned Night-heron), BHCO (Brown-headed Cowbird), BRBL (Brewer's Blackbird), BWTE (Blue-winged Teal), CAGO (Canada Goose), CAGU (California Gull), CLSW (Cliff Swallow), COGR (Common Grackle), EAGR (Eared Grebe), EAKI (Eastern Kingbird), EUST (European Starling), **FRGU** (Franklin's Gull), GADW (Gadwall), GWTL (Green-winged Teal), **HOGR** (Horned Grebe), KILL (Killdeer), LESC (Lesser Scaup), **LOSH** (Loggerhead Shrike), MAGO (Marbled Godwit), MALL (Mallard), MODO (Mourning Dove), NOPI (Northern Pintail), NSHO (Northern Shoveler), **NSTS** (Nelson's Sparrow), OSPR (Osprey), PBGR (Pied-billed Grebe), PESA (Pectoral Sandpiper), PRFA (Prairie Falcon), RBGU (Ring-billed Gull), REDH (Redhead), RNPH (Red-necked Phalarope), RUDU (Ruddy Duck), RWBL (Red-winged Blackbird), SAND (Sanderling), SAPH (Say's Phoebe), SESA (Semipalmated Sandpiper), SORA (Sora), SPSA (Spotted Sandpiper), STSA (Sharp-tailed Sandpiper), TRES (Tree Swallow), WEKI (Western Kingbird), WILL (Willet), WIPH (Wilson's Phalarope), WISN (Wilson's Snipe), WRSA (White-rumped Sandpiper), YHBL (Yellow-headed Blackbird).

APPENDIX 11. TERRESTRIAL SMALL MAMMAL TRAPPING RESULTS

Appendix 11. Terrestrial small mammal trapping results for Fort Peck Indian Reservation during summer 2012 (see Figure 6). Trap lines consist of 10 stations (20 traps: 10 Museum Special, 10 Sherman live traps) run for a single night, with the exception of line 22.

Line	Date	County	Start Coordinates	End Coordinates	Habitat	Species (number) ¹
1	29 Jul	Valley	48.26312, 106.26239	48.26347, 106.26071	grassland	PEMA (1)
2	29 Jul	Valley	48.26100, 106.26309	48.25972, 106.26357	grassland	SOHA (1), PEMA (2)
3	29 Jul	Valley	48.25979, 106.25518	48.25942, 106.25716	grassland	PEMA (1)
4	30 Jul	Roosevelt	48.39157, 105.28013	48.39107, 105.27872	badlands	PEMA (3)
5	30 Jul	Roosevelt	48.38264, 105.28733	48.38352, 105.28618	snowberry/rose gully	ZAPR (1)
6	30 Jul	Roosevelt	48.39553, 105.21140	48.39538, 105.20941	sagebrush/grassland	PEMA (2)
7	1 Aug	Roosevelt	48.20788, 105.78061	48.20923, 105.78072	grassland	no captures
8	1 Aug	Roosevelt	48.20770, 105.77561	48.20805, 105.77395	snowberry/rose gully	no captures
9	1 Aug	Roosevelt	48.21456, 105.75774	48.21488, 105.75570	sagebrush/grassland	PEMA (1)
10	15 Aug	Valley	48.20510, 106.38307	48.20392, 106.38202	cottonwood riparian	no captures
11	15 Aug	Valley	48.20520, 106.38232	48.20634, 106.38103	sagebrush/grassland	no captures
12	16 Aug	Valley	48.40703, 106.11823	48.40705, 106.11636	shrub/grass riparian	no captures
13	16 Aug	Valley	48.40423, 106.10939	48.40459, 106.11045	shrub riparian	no captures
14	16 Aug	Valley	48.41952, 106.09835	48.41929, 106.10021	grassy wetland	PEMA (1)
15	16 Aug	Valley	48.41526, 106.08846	48.41666, 106.08881	sagebrush/grassland	PEMA (1)
16	16 Aug	Valley	48.40995, 106.08472	48.40882, 106.08374	sagebrush/greasewood flat	PEMA (1)
17	17 Aug	Daniels	48.57845, 105.41492	48.57942, 105.41337	grassland	PEMA (1)
18	17 Aug	Roosevelt	48.45900, 105.39661	48.54805, 105.39516	grassland bottom	no captures
19	17 Aug	Daniels	48.57835, 105.42072	48.57874, 105.41873	grassland	no captures
20	17 Aug	Daniels	48.57991, 105.42083	48.58137, 105.42079	grassland edge	no captures
21	18 Aug	Roosevelt	48.22502, 105.22329	48.22392, 105.22247	grassy wetland	no captures
22	18 Aug	Roosevelt	48.22523, 105.21867	48.22660, 105.21809	grassland	no captures
22	19 Aug	Roosevelt	48.22523, 105.21867	48.22660, 105.21809	grassland	no captures
23	18 Aug	Roosevelt	48.19608, 105.21576	48.19524, 105.21727	grassland/shrubby gully	PEMA (1)
24	18 Aug	Roosevelt	48.18291, 105.21577	48.18165, 105.21651	grassland/shrubby gully	no captures
25	19 Aug	Roosevelt	48.27674, 105.08956	48.27555, 105.09021	cottonwood riparian	PEMA (3)
26	19 Aug	Roosevelt	48.27668, 105.09036	48.27549, 105.09109	cottonwood riparian	PEMA (2)
27	19 Aug	Roosevelt	48.27687, 105.09110	48.27557, 105.09164	grassland/sagebrush	PEMA (1)
28	7 Sep	Roosevelt	48.21342, 105.63709	48.21242, 105.63829	grassy riparian (dry)	no captures
29	7 Sep	Roosevelt	48.22465, 105.67491	48.22489, 105.67667	grassland	PEMA (1)

30	7 Sep	Roosevelt	48.22938, 105.71024	48.22858, 105.70879	grassland/shrubland	PEMA (1)
31	7 Sep	Roosevelt	48.22509, 105.70938	48.22388, 105.70937	grassland/shrubby gully	PEMA (1)
32	8 Sep	Roosevelt	48.41437, 104.91888	48.41450, 104.91705	snowberry/rose gully	PEMA (1), REME (1)
33	8 Sep	Roosevelt	48.41930, 104.92490	48.41940, 104.92345	buffaloberry gully	PEMA (4)
34	8 Sep	Roosevelt	48.41779, 104.92381	48.41851, 104.92220	snowberry gully	PEMA (1)
35	8 Sep	Roosevelt	48.42424, 104.92745	48.42432, 104.92553	rock breaks/horizontal juniper	PEMA (3)
36	8 Sep	Roosevelt	48.42596, 104.92556	48.42597, 104.92347	grassy riparian cobble	PEMA (1)
37	8 Sep	Roosevelt	48.42479, 104.92822	48.42362, 104.92896	buffaloberry riparian	PEMA (3)
38	9 Sep	Roosevelt	48.34590, 104.60263	48.34457, 104.60261	grassland	PEMA (3)
39	9 Sep	Roosevelt	48.34611, 104.60007	48.34612, 104.59809	grassland/shrubland ditch	PEMA (1)
40	9 Sep	Roosevelt	48.36069, 104.62062	48.36199, 104.62054	marshy cattail canal (dry)	PEMA (1)
41	9 Sep	Roosevelt	48.36073, 104.64967	48.36114, 104.65157	grassland riparian bottom	PEMA (4)
42	9 Sep	Roosevelt	48.40420, 104.95879	48.40487, 104.95731	snowberry/rose gully	MIPE (1), PEMA (1)
43	11 Sep	Valley	48.07508, 106.27652	48.07603, 106.27522	cottonwood riparian	PEMA (2)
44	11 Sep	Valley	48.07475, 106.27681	48.07388, 106.27683	cottonwood riparian	PELE (1)
45	11 Sep	Valley	48.05939, 106.23792	48.05925, 106.23608	cottonwood riparian	no captures
46	11 Sep	Valley	48.05987, 106.23803	48.06091, 106.23850	cottonwood riparian	SOHO (1), PELE (1), PEMA (1)

¹ Species codes: SOHA (*Sorex haydeni*, Hayden's Shrew), SOHO (*Sorex hoyi*, Pygmy Shrew), MIPE (*Microtus pennsylvanicus*, Meadow Vole), PELE (*Peromyscus leucopus*, White-footed Mouse), PEMA (*Peromyscus maniculatus*, Deer Mouse), REME (*Reithrodontomys megalotis*, Western Harvest Mouse), ZAPR (*Zapus princeps*, Western Jumping Mouse).

APPENDIX 12. BAT DETECTOR ACOUSTIC SURVEY RESULTS

Appendix 12. Bat detector (Pettersson D240X) acoustic surveys on the Fort Peck Indian Reservation during summer 2012 (see Figure 7). Bolded Species are Montana Species of Concern.

Bat Survey	Date	County	Latitude	Longitude	Bat Species Detected ¹
1	29 Jul	Valley	48.13852	106.33647	Equipment malfunction
2	29 Jul	Valley	48.14702	106.35769	LANO (D), MYEV (P)
3	30 Jul	Roosevelt	48.40797	105.20672	Equipment malfunction
4	30 Jul	Roosevelt	48.40672	105.20432	LABO (P), LACI (D), LANO (D)
5	1 Aug	Roosevelt	48.21686	105.75659	LABO (P), LANO (D), MYCI (P)
6	1 Aug	Roosevelt	48.22807	105.78075	LABO (D), LACI (P), LANO (D), MYLU (D)
7	15 Aug	Valley	48.20589	106.38326	LACI (P), LANO (D), MYLU (D)
8	15 Aug	Valley	48.20490	106.38369	LACI (D), LANO (D), MYCI (P)
9	16 Aug	Valley	48.40693	106.11797	LANO (D)
10	16 Aug	Valley	48.41440	106.08795	LACI (D)
11	16 Aug	Valley	48.40452	106.07969	LACI (D), LANO (D)
12	17 Aug	Roosevelt	48.55056	105.36493	LABO (P), MYCI (P), MYLU (D)
13	17 Aug	Roosevelt	48.55015	105.37385	LANO (D), MYLU (D)
14	17 Aug	Roosevelt	48.54692	105.37337	LABO (D), LACI (D), LANO (D), MYCI (P), MYLU (D)
15	18 Aug	Roosevelt	48.22952	105.21970	EPFU (P), LABO (D), LACI (D), LANO (D), MYLU (D)
16	18 Aug	Roosevelt	48.22669	105.22308	LABO (D), LACI (D), LANO (D), MYLU (D)
17	18 Aug	Roosevelt	48.11608	105.19315	EPFU (P), LACI (D), LANO (D), MYCI (P)
18	19 Aug	Roosevelt	48.27409	105.08802	EPFU (D), LABO (D), LACI (D), LANO (D), MYCI (P), MYLU (D)
19	19 Aug	Roosevelt	48.27618	105.09030	COTO (P), EPFU (D), LACI (D), LANO (D), MYCI (P), MYEV (P), MYLU (D)
20	19 Aug	Roosevelt	48.27536	105.09019	COTO (P), LACI (D), LANO (D), MYLU (P)
21	7 Sep	Roosevelt	48.22530	105.67738	MYCI (P)
22	7 Sep	Roosevelt	48.22492	105.67667	LANO (D), MYCI (P), MYLU (P)
23	7 Sep	Roosevelt	48.22992	105.71275	LANO (D), MYCI (P)
24	8 Sep	Roosevelt	48.47637	104.95145	LANO (D), MYCI (P)
25	8 Sep	Roosevelt	48.43452	104.93124	No bats
26	8 Sep	Roosevelt	48.42571	104.92641	LABO (P), LANO (D), MYCI (P), MYLU (D)
27	9 Sep	Roosevelt	48.34268	104.58437	EPFU (P), LABO (P), LACI (D), LANO (D), MYCI (P), MYLU (D)
28	9 Sep	Roosevelt	48.35996	104.74130	LANO (D)
29	9 Sep	Roosevelt	48.30305	104.80794	EPFU (P), LABO (D), LACI (D), LANO (D), MYCI (P), MYLU (D)
30	11 Sep	Valley	48.05961	106.23841	LANO (D)
31	11 Sep	Valley	48.10113	106.26014	LACI (P), LANO (D)
32	11 Sep	Valley	48.14172	106.34435	LANO (P)

¹ Species codes: **COTO** (*Corynorhinus townsendii*, Townsend's Big-eared Bat), **EPFU** (*Eptesicus fuscus*, Big Brown Bat), **LABO** (*Lasiurus borealis*, Eastern Red Bat), **LACI** (*Lasiurus cinereus*, Hoary Bat), **LANO** (*Lasionycteris noctivagans*, Silver-haired Bat), **MYCI** (*Myotis ciliolabrum*, Western Small-footed Myotis), **MYEV** (*Myotis evotis*, Western Long-eared Myotis), **MYLU** (*Myotis lucifugus*, Little Brown Myotis).

Call confidence codes: D = "definitive", P = "probable."

**APPENDIX 13. OPPORTUNISTIC WILDLIFE OBSERVATIONS
DURING 2012**

Appendix 13. Miscellaneous amphibian, reptile, and small mammal observations from Fort Peck Indian Reservation during the 2012 wildlife inventory. Bolded Species are Montana Species of Concern.

AMPHIBIANS

Ambystoma mavortium (Barred Tiger Salamander)

14 Jun	Sheridan Co	48.59933, 104.69584	Crazy Horse Cr	D. Stagliano
14 Jun	Sheridan Co	48.60653, 104.59476	Otter Cr trib	D. Stagliano
15 Jun	Sheridan Co	48.54918, 104.55367	Alkali Coulee	D. Stagliano
16 Jun	Roosevelt Co	48.27527, 105.18185	Poplar R trib	D. Stagliano
2 Aug	Roosevelt Co	48.20730, 105.77432	10 mi NW Wolf Point	P. Hendricks

Pseudacris maculata (Boreal Chorus Frog)

27 May	Valley Co	48.04502, 106.01099	near Frazer	P. Hendricks
28 May	Valley Co	48.09525, 105.88735	Oswego N Rd	P. Hendricks
28 May	Valley Co	48.19763, 105.99469	Frazer-Richland Rd	P. Hendricks
28 May	Valley Co	48.33920, 105.99987	Frazer-Richland Rd	P. Hendricks
30 May	Sheridan Co	48.57758, 104.56960	Alkali Coulee	S. Lenard
30 May	Sheridan Co	48.58443, 104.55860	4.7 mi SW Reserve	S. Lenard
30 May	Sheridan Co	48.56320, 104.85260	10.7 mi E Pleasant Prairie	S. Lenard
31 May	Roosevelt Co	48.23722, 105.38730	12.4 mi NW Poplar	S. Lenard
31 May	Roosevelt Co	48.23255, 105.33710	Boxelder Cr	S. Lenard
1 Jun	Valley Co	48.55185, 106.12400	E Fk Little Porcupine Cr	S. Lenard
1 Jun	Valley Co	48.55214, 106.11350	E Fk Little Porcupine Cr	S. Lenard
1 Jun	Valley Co	48.55106, 106.08910	E Fk Little Porcupine Cr	S. Lenard
8 Jun	Roosevelt Co	48.10799, 105.19806	Poplar	B. Maxell
16 Jun	Sheridan Co	48.57533, 104.62758	Sauerkraut Coulee trib	D. Stagliano
17 Jun	Roosevelt Co	48.25378, 104.75467	Lake Cr	D. Stagliano
17 Jun	Roosevelt Co	48.21514, 105.49960	Tule Cr trib	D. Stagliano
25 Jun	Roosevelt Co	48.59107, 105.51109	Police Cr	D. Stagliano
25 Jun	Roosevelt Co	48.67910, 105.64120	Police Cr #2	D. Stagliano

26 Jun	Valley Co	48.60686, 106.26050	Snow Coulee	D. Stagliano
26 Jun	Roosevelt Co	48.16460, 104.61665	Hwy 2 at Muddy Rd	B. Maxell
26 Jun	Roosevelt Co	48.12712, 104.97831	Hwy 2 SW Two Mile Hill	B. Maxell
26 Jun	Roosevelt Co	48.17460, 105.18603	4.8 mi N Poplar	B. Maxell

Lithobates pipiens (Northern Leopard Frog)

13 Jun	Sheridan Co	48.48900, 104.60283	Wolf Cr	D. Stagliano
14 Jun	Sheridan Co	48.61570, 104.84231	Wolf Cr #4	D. Stagliano
16 Jun	Roosevelt Co	48.35833, 104.74577	Smoke Cr	D. Stagliano
16 Jun	Roosevelt Co	48.27559, 105.08736	Poplar R	D. Stagliano
16 Jun	Roosevelt Co	48.40842, 105.20671	Poplar R (Oxbow trib)	D. Stagliano
17 Jun	Roosevelt Co	48.21514, 105.49960	Tule Cr (trib)	D. Stagliano
17 Jun	Roosevelt Co	48.21440, 105.50890	Tule Cr #3	D. Stagliano
31 Jul	Roosevelt Co	48.40672, 105.20432	along Poplar R	P. Hendricks
2 Aug	Roosevelt Co	48.22632, 105.77981	Badger Hole Coulee	P. Hendricks
15 Aug	Valley Co	48.20510, 106.38232	Porcupine Cr	S. Lenard

REPTILES

Chrysemys picta (Painted Turtle)

14 Jun	Roosevelt Co	48.40220, 105.09536	Hay Cr	D. Stagliano
14 Jun	Sheridan Co	48.65277, 104.96309	Wolf Cr #2	D. Stagliano
15 Jun	Roosevelt Co	48.36062, 104.6945	Irish Coulee	D. Stagliano
16 Jun	Roosevelt Co	48.27527, 105.18185	Poplar R (trib)	D. Stagliano
16 Jun	Roosevelt Co	48.40842, 105.20671	Poplar R (Oxbow trib)	D. Stagliano
16 Jun	Roosevelt Co	48.49011, 105.29624	Give Out Morgan Cr	D. Stagliano
17 Jun	Roosevelt Co	48.18289, 105.49606	Tule Cr #2	D. Stagliano
26 Jun	Valley Co	48.40730, 106.29327	E Fork Porcupine Cr	D. Stagliano
8 Sep	Roosevelt Co	48.42672, 104.92647	Smoke Cr	P. Hendricks

Coluber constrictor (Eastern Racer)

18 Aug	Roosevelt Co	48.54973, 105.39643	W Fork Poplar R	S. Lenard
<i>Opheodrys vernalis</i> (Smooth Green Snake)				
8 Jun	Roosevelt Co	48.17551, 105.17855	along Poplar R	B. Maxell
8 Sep	Roosevelt Co	48.14969, 104.92016	Brockton	S. Lenard
10 Sep	Roosevelt Co	48.41510, 104.92006	bench above Smoke Cr	P. Hendricks
<i>Thamnophis radix</i> (Plains Gartersnake)				
1 Jun	Valley Co	48.37963, 105.99857	22.2 mi N Frazer	S. Lenard
<i>Thamnophis sirtalis</i> (Common Gartersnake)				
15 Jun	Roosevelt Co	48.36062, 104.64945	Irish Coulee	D. Stagliano
SMALL MAMMALS				
<i>Lepus townsendii</i> (White-tailed Jackrabbit)				
17 Aug	Roosevelt Co.	48.10726, 105.59586	Hwy 2 E Wolf Point	P. Hendricks
<i>Castor canadensis</i> (Beaver)				
7 Jun	Roosevelt Co	48.21672, 105.21443	Little Badger Cr	B. Maxell
7 Jun	Roosevelt Co	48.27726, 105.08941	Poplar R	B. Maxell
7 Jun	Roosevelt Co	48.18158, 105.17593	Poplar R	B. Maxell
8 Jun	Roosevelt Co	48.17551, 105.17855	Poplar R	B. Maxell
<i>Erithizon dorsatum</i> (Porcupine)				
17 Aug	Roosevelt Co	48.32827, 105.45877	Hwy 13 mile-marker 11	S. Lenard
<i>Ondatra zibethicus</i> (Muskrat)				
13 Jun	Sheridan Co	48.48900, 104.60290	Wolf Cr	D. Stagliano
26 Jun	Roosevelt Co	48.16460, 104.61665	Hwy 2 at Muddy Cr Rd	B. Maxell
31 Jul	Roosevelt Co	48.40797, 105.20672	Poplar R	P. Hendricks
16 Aug	Valley Co	48.41440, 106.08795	Little Porcupine Cr	P. Hendricks
<i>Uroditellus richardsonii</i> (Richardson's Ground Squirrel)				
7 Jun	Roosevelt Co	48.12442, 105.47477	Hwy 2 E of Hwy 13	B. Maxell
17 Jun	Roosevelt Co	48.13478, 105.29475	3 mi E Chelsea	C. Mart

17 Jun	Roosevelt Co	48.22895, 105.10863	Poplar R	C. Mart
21 Jun	Roosevelt Co	48.19699, 104.79596	2 mi W Bertino Res	C. Mart
26 Jun	Roosevelt Co	48.16460, 104.61665	Hwy 2 at Muddy Cr Rd	B. Maxell
1 Aug	Roosevelt Co	48.22622, 105.77765	Badger Hole Coulee	P. Hendricks
<i>Ictidomys tridecemlineatus</i> (Thirteen-lined Ground Squirrel)				
31 Jul	Roosevelt Co	48.08570, 105.04296	S of Sprole	P. Hendricks
18 Aug	Roosevelt Co	48.08251, 105.04242	S of Sprole	P. Hendricks
8 Sep	Roosevelt Co	48.47219, 104.93134	22.4 mi N Brockton	P. Hendricks
<i>Canis latrans</i> (Coyote)				
1 Jun	Valley Co	48.55180, 106.06770	Little Porcupine Cr	S. Lenard
26 Jun	Roosevelt Co	48.17573, 105.17907	4.5 mi N Poplar	B. Maxell
<i>Vulpes vulpes</i> (Red Fox)				
9 Sep	Roosevelt Co	48.35746, 104.77955	13 mi W Froid	P. Hendricks
<i>Mephitis mephitis</i> (Striped Skunk)				
30 May	Roosevelt Co	48.48349, 104.91180	23.1 mi N Brockton	S. Lenard
31 May	Roosevelt Co	48.21550, 105.57740	9 mi N Wolf Point	S. Lenard
31 Jul	Roosevelt Co	48.07504, 105.53954	Hwy 13 SE Wolf Point	P. Hendricks
31 Jul	Roosevelt Co	48.12688, 104.97879	Hwy 2 W of Brockton	P. Hendricks
9 Sep	Roosevelt Co.	48.30304, 104.80795	14 mi WSW Froid	P. Hendricks
<i>Mustela frenata</i> (Long-tailed Weasel)				
18 Aug	Daniels Co	48.56316, 105.10300	2 mi S Pleasant Prairie	S. Lenard
<i>Taxidea taxus</i> (Badger)				
26 Jun	Roosevelt Co	48.10781, 105.09262	Hwy 2 W of Sprole	B. Maxell
17 Aug	Roosevelt Co.	48.55286, 105.42416	near Poplar R & Hwy 13	P. Hendricks
<i>Procyon lotor</i> (Raccoon)				
30 May	Sheridan Co	48.60561, 104.47467	0.8 mi NW Reserve	S. Lenard
31 Jul	Roosevelt Co	48.09887, 105.59996	Hwy 13 E Wolf Point	P. Hendricks

31 Jul	Roosevelt Co	48.13476, 105.32925	Hwy 2 6.5 mi E Poplar	P. Hendricks
31 Jul	Roosevelt Co	48.10787, 105.07413	Hwy 2 5.6 mi E Poplar	P. Hendricks
18 Aug	Roosevelt Co	48.31338, 105.08326	Hwy 251 14 mi N Hwy 2	P. Hendricks
18 Aug	Roosevelt Co	48.10699, 105.06371	6.0 mi E Poplar	P. Hendricks

**APPENDIX 14. SUMMARY OF FISH OBSERVATIONS FROM FORT PECK INDIAN
RESERVATION PRE-2012**

Appendix 14. Checklist of fish species reported from the Fort Peck Indian Reservation area prior to the 2012 baseline surveys, based primarily on Montana Department of Fish, Wildlife and Parks MFISH database and the Montana Natural Heritage Program TRACKER database. “Survey Year” spans the range of years when a species was reported. Bolded species are Montana Species of Concern.

Species	County	Drainage	Survey Year
Shovelnose Sturgeon <i>Scaphirhynchus platyrhynchus</i>	Valley Roosevelt	Milk/Missouri Missouri	1979-2011 1994-2010
Pallid Sturgeon <i>Scaphirhynchus albus</i>	Valley Roosevelt	Milk/Missouri Missouri	2004-2011 2002-2010
Paddlefish <i>Polyodon spathula</i>	Valley Roosevelt	Milk/Missouri Missouri	1996-2010 2004-2010
Shortnose Gar <i>Lepisosteus platostomus</i>	Valley	Milk/Missouri	1999
Northern Pike <i>Esox lucius</i>	Valley Roosevelt Daniels Sheridan	Milk/Missouri Missouri Poplar Big Muddy Creek	1996-2011 1996-2010 1977-2000 2000
Goldeye <i>Hiodon alosoides</i>	Valley Roosevelt	Milk/Missouri Missouri Poplar	1994-2011 1994-2010 2000
Shorthead Redhorse <i>Moxostoma macrolepidotum</i>	Valley Roosevelt	Milk/Missouri Missouri Poplar	1994-2011 1994-2010 2000
White Sucker <i>Catostomus commersoni</i>	Valley Roosevelt Sheridan	Milk/Missouri Little Porcupine Creek Missouri Poplar Big Muddy Creek	1995-2011 2001 1994-2010 2000 2000-2007
Longnose Sucker <i>Catostomus catostomus</i>	Valley Roosevelt	Milk/Missouri Missouri	1994-2011 1994-2010
Blue Sucker <i>Cycleptus elongatus</i>	Valley Roosevelt	Milk/Missouri Missouri	1979-2011 1995-2010
Bigmouth Buffalo <i>Ictiobus cyprinellus</i>	Valley Roosevelt	Milk/Missouri Missouri Big Muddy Creek	1996-2011 1999-2011 2010
Smallmouth Buffalo <i>Ictiobus bubalus</i>	Valley Roosevelt	Milk/Missouri Missouri	1979-2011 1994-2010
River Carpsucker <i>Carpoides carpio</i>	Valley Roosevelt	Milk/Missouri Missouri	1996-2011 1994-2010
Common Carp <i>Cyprinus carpio</i>	Valley Roosevelt Daniels Sheridan	Milk/Missouri Little Porcupine Creek Missouri Poplar Big Muddy Creek	1996-2011 1979 1999-2010 2004 2006-2010
Northern Redbelly Dace <i>Phoxinus eos</i>	Valley Roosevelt	Milk/Missouri Little Porcupine Creek Missouri	2006-2010 2001-2003 2006-2010

	Sheridan	Big Muddy Creek	2007-2008
Pearl Dace <i>Margariscus margarita</i>	Valley Roosevelt Sheridan	Milk/Missouri Wolf Creek Poplar Smoke Creek Big Muddy Creek	1958 1951-1959 1951 1951 2000
Flathead Chub <i>Platygobio gracilis</i>	Valley Roosevelt	Milk/Missouri Missouri	1994-2010 1994-2010
Sicklefin Chub <i>Macrhybopsis meeki</i>	Valley Roosevelt	Milk/Missouri Missouri	1999-2010 1999-2010
Sturgeon Chub <i>Macrhybopsis gelida</i>	Valley Roosevelt	Milk/Missouri Missouri	1999-2010 1996-2010
Longnose Dace <i>Rhinichthys cataractae</i>	Valley Roosevelt Sheridan	Milk/Missouri Little Porcupine Creek Missouri Big Muddy Creek	1998-2010 2001 2000-2010 2000
Fathead Minnow <i>Pimephales promelas</i>	Valley Roosevelt Sheridan	Milk/Missouri Little Porcupine Creek Missouri Big Muddy Creek	1998-2010 2001 1999-2010 2000-2007
Brassy Minnow <i>Hybognathus hankinsoni</i>	Valley Roosevelt Daniels Sheridan	Milk/Missouri Little Porcupine Creek Missouri Cottonwood Creek Poplar Big Muddy Creek Wolf Creek	2006 2001-2003 2003-2006 2001 2000 2000 2001
Western Silvery Minnow <i>Hybognathus argyritis</i>	Valley Roosevelt	Milk/Missouri Missouri	2006-2010 2006-2010
Plains Minnow <i>Hybognathus placitus</i>	Valley Roosevelt	Milk/Missouri Missouri	2007 2007
Emerald Shiner <i>Notropis atherinoides</i>	Valley Roosevelt	Milk/Missouri Missouri Big Muddy Creek	1996-2010 1996-2010 1998-2011
Spottail Shiner <i>Notropis hudsonius</i>	Valley Roosevelt	Milk/Missouri Missouri	1996-2010 1996-2010
Sand Shiner <i>Notropis stramineus</i>	Valley Roosevelt	Milk/Missouri Missouri	2006-2010 2006-2010
Rainbow Smelt <i>Osmerus mordax</i>	Valley Roosevelt	Milk/Missouri Missouri	1996-2007 2002-2007
Cisco <i>Coregonus artedi</i>	Valley Roosevelt	Milk/Missouri Missouri	1996-2007 1999-2008
Channel Catfish <i>Ictalurus punctatus</i>	Valley Roosevelt	Milk/Missouri Missouri	1996-2011 1994-2011
Black Bullhead <i>Ameiurus melas</i>	Valley Roosevelt Sheridan	Milk/Missouri Little Porcupine Creek Missouri Poplar Big Muddy Creek	2000-2011 2001 2006-2008 2002 2000-2007

Yellow Bullhead <i>Ameiurus natalis</i>	Roosevelt	Missouri	2007
Stonecat <i>Noturus flavus</i>	Valley Roosevelt Daniels	Milk/Missouri Missouri Poplar	1998-2011 1999-2010 2000
Burbot <i>Lota lota</i>	Valley Roosevelt	Milk/Missouri Missouri	1996-2011 1996-2010
Brook Stickleback <i>Culaea inconstans</i>	Valley Roosevelt Sheridan	Milk/Missouri Little Porcupine Creek Missouri Cottonwood Creek Big Muddy Creek Big Muddy Creek Wolf Creek	2006-2010 2001-2003 2006-2010 2001 2003-2010 2000 2001
Black Crappie <i>Pomoxis nigromaculatus</i>	Valley Roosevelt	Milk/Missouri Porcupine Creek Missouri	1999-2000 2010 1999-2010
White Crappie <i>Pomoxis annularis</i>	Valley Roosevelt	Milk/Missouri Missouri	1996-2010 1999-2010
Pumpkinseed <i>Lepomis gibbosus</i>	Valley Roosevelt	Milk/Missouri Missouri	2006-2009 2006-2009
Green Sunfish <i>Lepomis cyanellus</i>	Valley Roosevelt	Milk/Missouri Missouri	2009 2006-2010
Smallmouth Bass <i>Micropterus dolomieu</i>	Valley Roosevelt	Milk/Missouri Missouri	2000-2011 1994-2010
Freshwater Drum <i>Aplodinotus grunniens</i>	Valley Roosevelt	Milk/Missouri Missouri	1998-2011 1999-2010
White Bass <i>Morone chrysops</i>	Roosevelt	Missouri	2010
Yellow Perch <i>Perca flavescens</i>	Valley Roosevelt	Milk/Missouri Missouri	1996-2009 1996-2010
Walleye <i>Stizostedion vitreum</i>	Valley Roosevelt Daniels	Milk/Missouri Missouri Poplar	1979-2011 1995-2010 1977
Sauger <i>Stizostedion canadense</i>	Valley Roosevelt	Milk/Missouri Missouri	1979-2011 1994-2011
Iowa Darter <i>Etheostoma exile</i>	Valley Roosevelt Sheridan	Little Porcupine Creek Wolf Creek Oswego Creek Big Muddy Creek Wolf Creek	2001 2000 2000 2003 2001

**APPENDIX 14. RECORDS OF NONGAME AMPHIBIANS, REPTILES AND SMALL
MAMMALS PRE-2012**

Appendix 15. Amphibian, reptile, and small mammal records from Fort Peck Indian Reservation prior to 2012, based on reports in the Montana Natural Heritage Program TRACKER database. Bolded species are Montana Species of Concern.

AMPHIBIANS

Ambystoma mavortium (Barred Tiger Salamander)

9-19 Aug 1853	near Frazer	G. Suckley
18 Jul 1922	6 mi N Brockton	C. C. Sperry

Anaxyrus woodhousii (Woodhouse's Toad)

13 Jul 1922	Poplar	C. C. Sperry
15 Jul 1922	Poplar	C. C. Sperry

Pseudacris maculata (Boreal Chorus Frog)

17 May 1998	Porcupine Cr 5 mi N Nashua	J. K. Werner
28 May 2006	1.4 mi NNE mouth Hay Cr	Amphibian Inventory
28 May 2006	1.9 mi NNE mouth Hay Cr	Amphibian Inventory
28 May 2006	2 mi N mouth Swank Cr Coulee	Amphibian Inventory
28 May 2006	1.2 mi NE mouth Give Out Morgan Cr	Amphibian Inventory
28 May 2006	1.4 mi NE mouth Give Out Morgan Cr	Amphibian Inventory
28 May 2006	2.9 mi ENE mouth W Fork Poplar R	Amphibian Inventory
28 May 2006	1.4 mi WSW mouth Nielson Coulee	Amphibian Inventory
28 May 2006	1.3 mi NNE Pole Hill	Amphibian Inventory
20 May 2007	Poplar R 5.5 mi SW Geddart Lk	Amphibian Inventory
20 May 2007	ditch 7.1 mi NNW McIlwain Lk	Amphibian Inventory
20 May 2007	ditch 6.2 mi NE Rocky Hill	Amphibian Inventory
20 May 2007	Muddy Cr 2.2 mi NNW Johnson Lk	Amphibian Inventory
21 May 2007	Tule Cr 4 mi NE Spread Eagle	Amphibian Inventory
1 Jun 2007	E Fork Porcupine Cr	S. Schumacher

Lithobates pipiens (Northern Leopard Frog)

28 Jun 1874	mouth Wolf Cr on Missouri R	E. Coues
13 Jul 1922	slough near Poplar	C. C. Sperry
27 May 1951	Smoke Cr	S. I. Rowe

19 Aug 1951	Wolf Cr	S. I. Rowe
12 Sep 1959	Porcupine Cr	C. J. D. Brown
12 Sep 1959	Wolf Cr at Hwy 2	C. J. D. Brown
17 May 1998	Porcupine Cr 5 mi N Nashua	J. K. Werner
20 May 1998	Wolf Cr at Hwy 2	J. K. Werner
28 May 1998	Smoke Cr at Hwy 344	P. Hendricks
25 Jul 2000	Wolf Cr	R. G. Bramblett
26 Jul 2000	W Fork Poplar R	R. G. Bramblett
27 Jul 2000	Smoke Cr	R. G. Bramblett
2007-2008	W Fork Charley Cr	“PBSJ”

REPTILES

Chrysemys picta (Painted Turtle)

27 Jul 2000	Smoke Cr	R. G. Bramblett
26 Jun 2007	2 mi NE intersection Eide Rd and Hwy 24	Amphibian Inventory

Heterodon nasicus (Western Hog-nosed Snake)

25 Jun 1874	Big Muddy Cr	E. Coues
-------------	--------------	----------

Opheodrys vernalis (Smooth Green Snake)

13 May 1999	W bank Muddy Cr W of Homestead	T. W. Gutzke
15 Aug 2011	Poplar	V. Smith

Pituophis catenifer (Gophersnake)

9-19 Aug 1853	Poplar R	G. Suckley
17 Jun 1996	Hwy 13 10 mi N Hwy 2	J. K. Werner
25 Jul 2000	Wolf Cr	R. G. Bramblett

Thamnophis radix (Plains Gartersnake)

25 Jul 1874	Big Muddy Cr	E. Coues
18 Jul 1922	6 mi N Brockton	C. C. Sperry
17 May 1998	Pocupine Cr 5 mi N Nashua	J. K. Werner
20 May 1998	Wolf Cr at Hwy 2	J. K. Werner
25 Jul 2000	Wolf Cr	R. G. Bramblett

Crotalus viridis (Western Rattlesnake)

4 Aug 1806	mouth Milk R	M. Lewis
Aug 1853	mouth Muddy Cr at Missouri R	G. Suckley

SMALL MAMMALS

Thomomys talpoides (Northern Pocket Gopher)

5 Jun 2008	10.5 mi N Nashua 0.5 mi N Sargent Cr	K. Ostovar
------------	--------------------------------------	------------

Microtus pennsylvanicus (Meadow Vole)

3 Jul 1874	near mouth Milk R	E. Coues
16 Jul 1922	Poplar	C. C. Sperry
19 Jul 2002	Snow Coulee	R. G. Bramblett
22 Jul 2002	Tule Cr	R. G. Bramblett

Peromyscus leucopus (White-footed Mouse)

19 Jul 2002	Snow Coulee	R. G. Bramblett
-------------	-------------	-----------------

Peromyscus maniculatus (Deer Mouse)

27 Jun 1966	23 mi E Glasgow along Hwy 2	J. H. Black
27 Jun 1966	Missouri R at Brockton	J. H. Black
12 Sep 1967	Hwy 13 at W Fork Poplar R	“EMTR”
13 Sep 1967	10 mi W Poplar	“EMTR”
13 Sep 1967	5 mi W Culbertson at Big Muddy Cr	“EMTR”
24 May 1981	Missouri R bridge 6 mi SE Wolf Point	L. S. Thompson
19 Jul 2002	Snow Coulee	R. G. Bramblett
22 Jul 2002	Tule Cr	R. G. Bramblett
23 Jul 2002	Boxelder Cr	R. G. Bramblett

Cynomys ludovicianus (Black-tailed Prairie Dog)

19 Aug 1853	mouth Milk R at Missouri R	G. Suckley
-------------	----------------------------	------------

Marmota flaviventris (Yellow-bellied Marmot)

1 May 1957	8 mi N Nashua	J. Cherny
------------	---------------	-----------

Uroditellus richardsonii (Richardson's Ground Squirrel)

19 Jun 1973	5 mi E Frazer	W. Severinghaus
-------------	---------------	-----------------

19 Jun 1973	3 mi E Wolf Point	W. Severinghaus
21 Jun 1973	2 mi W Homestead	W. Severinghaus
29 Jul 2009	W Fork Charley Cr	“PBSJ”
<i>Vulpes velox</i> (Swift Fox)		
23 Aug 2006	Missouri R riparian SW Brockton	L. Bighorn
<i>Lynx rufus</i> (Bobcat)		
Winter 2004-05	Township 28N51E	fur harvest
Winter 2007-08	Township 33N46E	fur harvest
<i>Mustela nivalis</i> (Least Weasel)		
3 Apr 1964	Brockton	H. Kopitzke
<i>Taxidea taxus</i> (Badger)		
29 Jul 2009	W Fork Charley Cr (burrows)	“PBSJ”